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AIR CONDITIONING HEATING & REFRIGERATION NEWS
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ASHRAE To Hear 15 Papers at Denver Meeting

DENVER — Fifteen papers covering diverified subjects will be presented at four technical sessions at the 68th annual meeting of the American Society of Heating, Refrigerating & Air-Conditioning Engineers to be held at the Denver Hilton hotel, June 26-28.

Program also includes four symposiums and seven forums.

Social events include a Welcome luncheon, Monday, June 26; banquet Tuesday evening, a western party Monday evening, and a mountain tour and chuck wagon Wednesday afternoon and evening.

Also scheduled are a technical tour of the Bureau of Standards Cryogenics Laboratory in Boulder, Colo., and a technical tour of the United Airlines Flight Training Center in Denver.

Technical Program

MONDAY, JUNE 26

8:30 a.m.—Registration, convention lobby.

9 a.m.—General assembly and business session, Junior Ballroom.

First Technical Session
Junior Ballroom

9:30 a.m.—"New Development In Steam Vacuum Refrigeration," Elliot Spencer, sales application engineer, Graham Mfg. Co., Inc.

10:15 a.m.—"A Thermodynamic Investigation of a Refrigerant Expansion Engine," T. M. Olcott, senior propulsion engineer, Convair, Fort Worth, and Prof. H. A. Blum, Dept. of Mechanical Engineering, Southern Methodist university.

11 a.m.—"A Discussion of Strength Characteristics of Ice at the Interface," Profs. J. K. Stene and W. E. Fontaine, School of Mechanical Engineering, Purdue university.

(Continued on Back Page, Col. 1)

June Perks Up Cooling Sales After 'Lousiest Spring Ever'

By Phil B. Redeker

DETROIT — How's the air conditioning business this year?

Not setting any over-all records thus far, that's certain. But in some types of equipment and in some parts of the U. S., sales activity has been fairly brisk.

Weather is always a handy place to hang the blame for a lag in sales, but hardly anyone disagrees that this has been "the lousiest Spring ever" in terms of weather conditions for air conditioning. However, in the first week of June temperatures that hit close to 90° spread over the northern tier of states. This brought about some stirring of interest and some concrete sales activity in areas where it had been practically nil. (See following roundup).

● An informal poll of distributors for an across-the-board manufacturer of air conditioning equipment with locations in the East and Middle West revealed their sales picture for various types of product thus far this year to be about as follows:

Large Packages — Excellent for everybody, with increases over last year ranging from 30% to 75%.

Central Residential — Great variation from distributor to distributor, some reporting sizable dips, others some increases, many about the same as last year.

Large Applied Systems—Moving along at steady pace, overall perhaps showing slight improvement over last year.

Room Air Conditioners—Generally poor.

Total Dollar Volume — On shipments made by these distributors this year, an increase of from 5 to 10%. The spell of warm weather early this month brought a spurt of activity, and held out the hope that a reasonably decent sales picture might develop on room units and smaller packages.

● Monday, June 5, marked the largest shipment of air conditioners to dealers of any day this year by L & P Electric Co., Fedders distributor for the New York metropolitan area, accord-

(Continued on Page 49, Col. 1)

Republic-Transcon Holders Approve Mathes Purchase

NEW YORK CITY — Stockholders of Republic-Transcon Industries, Inc., at a special meeting here, approved purchase of assets of The Mathes Co., division of Glen Alden Corp., effective June 1.

Milton J. Stevens, chairman of Republic-Transcon Industries, said that approval was unanimous.

In exchange for assets of Mathes, Glen Alden received 750,000 shares of Republic-Transcon Industries common stock and a 8½-year note for $2 million, bearing 4% interest, with the first monthly payment due May 1, 1962.

Giving effect to this transaction, Republic-Transcon Industries now has 2,570,913 shares of common stock outstanding out of an authorized 3,000,000 shares. Present management re-

(Continued on Page 49, Col. 5)

OK Cooling Firms on Some Piping Work

LOS ANGELES — The registrar of contractors, Contractors' State License Board, has ruled that an air conditioning contractor with a C-20 license can perform the piping work for a chilled water system.

The registrar, John E. Chadwick, issued the ruling in reply to a request from Henry B. Ely, executive secretary of the Refrigeration & Air Conditioning Contractors Association of Southern California.

The association sought the ruling after United Association Local 494, Long Beach, a member of District Council 16, removed a journeyman from the Naples apartment house job in Long Beach, being installed by Commercial Refrigeration Co.

The local withdrew the journeyman after being advised that an air conditioning contractor holding a C-20 license could not do the piping work for a chilled water system, according to a report by RACCA of Southern California.

"For many years," the re-

(Continued on Page 49, Col. 4)

Three Cool Plants for Employe Comfort

Cuts Absenteeism At Sportswear Firm

INDIANA, Pa. — Installation of four Halstead & Mitchell Co. central system air conditioners reportedly has aided in solution of a costly employe absenteeism problem and raised summertime production at the Indiana Sportswear Co. plant here.

"The air conditioning system has become such a vital factor in employe morale after a single season's use that we now consider the installation to be an indispensable production tool," said Jack Lerner, plant manager.

"We also are pleased with the economy of the system, which operates from two 120-ton compressors driven by natural gas engines. The entire system costs us but $15 a day to operate."

The 70,000-sq ft plant, a division of Campus Sweater &

(Continued on Page 24, Col. 1)

Keeps Up Production At Digitronics

ALBERTSON, L. I., N. Y.—No matter what the weather is like this summer, Digitronics Corp. anticipates maximum productivity from its high-cost, highly-skilled engineering personnel.

Largely for employe comfort, it completely air conditioned its recently constructed plant here that provides 30,000 sq ft of operating space all on one floor.

The structure, first occupied last November, was designed and built for Digitronics, according to Albert A. Auerbach, president. It trebled the previous facilities of the company, which creates and produces commercial data processing equipment.

Digitronics produced the "Dial-o-verter" system, which functions with the Bell System

(Continued on Page 25, Col. 1)

To Reduce Fatigue At Red Head Brand

EMINENCE, Ky. — All production areas and office space in the new one-story plant being readied here for occupancy by Red Head Brand, division of Brunswick Corp., for the manufacture of sporting equipment, will be air conditioned for the comfort of its nearly 400 employes, according to Clarke F. Hine, Red Head president.

Control of temperature, humidity, and circulation of air will reduce worker fatigue and keep productivity at a constant level, Hine said.

"When the temperature and humidity rise," he said, "people would rather come to work in our comfortable air conditioned plant than stay home. Pleasant working conditions also maintain good morale which is essential if the workers and the com-

(Continued on Page 25, Col. 4)

Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Your Brothers Abroad

Ever since World War II, we Americans have been citizens of the world. Whether we wanted to or not, events have forced us to break out of our "splendid isolation."

The news we read, the conduct of our daily affairs, our present and future business roles . . . even our very lives and those of out beloved children . . . are geared to world happenings and international strategies.

So it behooves each and every one of us to get better acquainted with our neighbors abroad. Let's start with the people in our business.

The NEWS has subscribers in 83 nations all over the world, and "Dope" has met many of them personally. Perhaps it's time to take a reading on what they're like and what they do.

Profile of an Overseas Subscriber

In the first place, he's quite diversified. Much less specialized than his American counterpart.

Chances are, in addition to air conditioning, he markets commercial refrigeration products, household refrigerators and appliances, and a raft of other things. Hotel and restaurant supplies of every description, for instance.

(Continued on Page 20, Col. 1)

In Effect Since 1927

Nesbitt, American-Standard To End Marketing Agreement on School Items

DETROIT—Effective Dec. 31, 1961, American-Standard Industrial Div. will no longer market Nesbitt school products, according to a joint announcement by Albert J. Nesbitt, president of John J. Nesbitt, Inc., and A. O'B. Andrews, Industrial Div. president.

The arrangement under which American-Standard promoted and sold this equipment is being terminated by mutual agreement. The arrangement has been in effect since 1927.

"The inevitability of the need for such a move has been evident in the past year," the announcement said. "As Nesbitt and the Industrial Div. have grown and expanded product lines, continued growth for both companies within the framework of the arrangement has become increasingly difficult. Termination of the arrangement will permit us both to move forward in pursuit of individual growth objectives," it was stated.

McKeague Takes Post With Chicago Dept.

CHICAGO—At the special request of Mayor Richard Daley, James J. McKeague has accepted the post of chief supervising engineer of the Dept. for the Inspection of Steam Boilers and Pressure Vessels.

Yorko the Bear Does a Little Wolfing

YORKO, a make-believe talking bear, tells his two pretty girl friends that they will *BEAR* the heat of the coming summer much better if they install York air conditioning equipment in their homes. Approximately 20 ft tall in his *BEAR* feet, Yorko not only is wired for sound but also is animated —right up to his eyelashes which he flutters with flirtatious finesse. As he talks and flutters, he also rotates on a mechanical turntable. By no means just an average bear, Yorko's job is to tell people about the air conditioning equipment manufactured by the York Div., Borg-Warner Corp.. He is on display in the Borg-Warner Exhibition hall at the corner of Michigan Ave. and Adams St. in downtown Chicago.

Swift Denies FTC Complaint, Asks Dismissal

WASHINGTON, D. C.—Swift & Co., Chicago, has denied Federal Trade Commission charges of using unfair methods of competition in the sale of ice cream and other frozen products.

In a complaint issued last March 6, the FTC alleged that Swift offers inducements to retail dealers and other handlers of frozen products in order to acquire and retain the business of these dealers. The challenged inducements furnished dealers include loans, ice cream cabinets, servicing of equipment, gifts, discriminatory prices, and sales below cost.

Denying any illegality in the furnishing of various services and facilities to customers, Swift asserts these were made available "in accordance with well-established industry practice" and "to meet like competitive offers and practices generally prevailing in the industry."

Furthermore, the answer says that "by reason of the general prevalence of said practices, to require Swift to cease and desist from engaging in the practices complained of, without imposing similar restrictions upon its competitors, would prevent Swift from competing on equal terms with its competitors, would result in serious financial loss to it, and would irreparably injure its goodwill and its ability to compete in the future."

The answer also contends that "Swift is a 'packer' within the meaning of the Packers and Stockyards Act, 1921, as amended . . . and that jurisdiction with respect to all its acts, practices, and methods which occurred prior to Sept. 2, 1958, was vested exclusively in the Secretary of Agriculture under said Packers and Stockyards Act and the Federal Trade Commission is without jurisdiction with respect thereto."

The company asks dismissal of the complaint.

Fourth Canadian Show Scheduled for Toronto Oct. 31 to Nov. 2

TORONTO, Ont., Can.—Canada's fourth Canadian Refrigeration & Air Conditioning Show will be held in the Canadian Room of the Royal York hotel here, Oct. 31-Nov. 2.

With nearly half of the available space being snapped up within the first few weeks of being offered, Terry McLorg, the association's general manager, expects a record number of firms to exhibit.

McLorg also believes there will be a record number of visitors because the International RSES convention will coincide with the last day of the show. This is the first time the International Refrigeration Service Engineers' Society convention is being held in Canada.

Complete details including ticket and booth information are available from T. W. McLorg, 100 Rathburn Ave., Islington, Ont., Can.

Other large plants may deliver a variety of products but Viking's spacious, modern plant was designed and built from the ground up for one specific purpose: the production of thin-wall copper tube of unsurpassed quality.

The equipment in the plant whether for fabrication or testing is of special design, built to Viking specifications, or by Viking itself.

So it is with the people of Viking. Each worker is specially trained for a single job — his part in the production of thin-wall copper tube for the leading makers of refrigeration and air conditioning equipment. The entire Viking production team — factory, facilities, men — work to a tradition that demands the best. Is there a better way to insure quality?

VIKING

COPPER TUBE CO.

CLEVELAND 10, OHIO

GAMA, BHC, NHAW Report Sales Gains

NEW YORK CITY—Sales of gas-fired central heating equipment in April reflected the annual return of mild weather and resumption of home construction activity.

Manufacturer shipments of gas furnaces, boilers, and conversion burners during the month were up 3.1, 5.9, and 7.8%, respectively, over the preceding month, the Gas Appliance Manufacturers Association reported.

April shipments of gas-fired furnaces numbered 63,200 units, compared to 61,300 reported for March. Gas boiler sales in April amounted to 8,926 units and the March figure for this equipment was 8,425. Gas conversion burner shipments totaled 5,100 in March and 5,500 in April.

The April combined total for all three types was 77,626, for a gain of 3.7% over March's 74,825.

GAMA's monthly telegraphic survey of manufacturers disclosed that this year's combined total for April was 8.2% less than the comparable figure reported for April of last year, 84,562. The year-ago total included 67,500 furnaces, 9,862 boilers, and 7,200 conversion burners.

In the first four months of this year the manufacturers dispatched 301,004 central heating units, 4% less than the 313,569 reported for the same period of 1960.

The current year's four-month total included 244,100 furnaces, 34,604 boilers, and 22,300 conversion burners.

Edward R. Martin, GAMA's director of marketing and statistics, said the April and first four-month totals for other types of gas heating equipment were as follows:

PRODUCT BREAKDOWNS

Vented recessed wall heaters—April shipments amounted to 24,500 units and the four-month total was 101,600. These were down 18.1 and 6.4%, respectively, from last year's 29,900 and 108,600.

Room heaters and other types of gas direct heating equipment—51,900 units in April and 210,500 for the four-month period. This year's figures were 15.3 and 4.2% less than the comparable year-ago amounts, 61,300 and 219,800.

Gas floor furnaces—April sales, 3,600, were 52% less than the 7,500 units reported for the same month of last year. This year's four-month amount, 17,600, was 18.1% under last year's 21,500.

Gas unit heaters and duct furnaces—Shipments of this equipment numbered 9,900 in April and 48,500 for the four-month period. These were 16.1 and 8.3% under last year's 11,800 and 52,900.

The GAMA report is based on a survey of manufacturers who account for a majority of the output in each category, with the responses expanded to show national shipment estimates, it was pointed out.

Spurdle Opens Branch

MIAMI, Fla.—Harry H. Spurdle Co., Inc., Galco refrigeration and air conditioning supplies wholesaler here, has announced the opening of a new branch at 715 Okeechobee Rd. in West Palm Beach. The branch is under the management of R. "Smitty" Smith.

NEW YORK CITY—Shipments of residential cast iron boilers gained in the first quarter of this year over the same period in 1960, the national Better Heating-Cooling Council reported.

Statistics released by the Institute of Boiler & Radiator Manufacturers reveal that cast iron boilers were up 12% for the quarter. In unit volume for the quarter, cast iron boilers increased 4,537. Figures for steel boilers are not yet available.

The I-B-R also released unit figures which showed that cast iron boilers have increased steadily in volume during the first quarter of each year since 1958.

The first-quarter figures are: 1961—42,693; 1960—38,156; 1959—33,070; 1958—29,400.

COLUMBUS, Ohio—The Northamerican Heating & Air-conditioning Wholesalers' trends report indicates that April sales of reporting members were up an average of 7.15% from a year earlier and 5.75% better than a month earlier.

April inventories increased .83% from April, 1960, and 2.23% from March. Accounts receivable were down 1.68% from the previous April and up 1.23% from March.

'Shield' Meeting Set

RAPID CITY, S. D.—At a meeting scheduled for Thursday evening, June 15, in the Hospitality Room of the First Savings & Loan Co., dealer-contractors from the Rapid City marketing area will get details on the Silver Shield Program.

Group May Resurvey Water Use Rules for Cooling Purposes

DETROIT—The committee on water use in air conditioning and other refrigeration of the American Water Works Association *may* resurvey the situation on municipal regulations controlling the use of water in air conditioning next year, Edward L. Bean, committee chairman, indicated here recently.

Bean, caught by surprise when asked for a report at the association's convention here, had nothing new to report.

He pointed out that the association had suggested a model ordinance governing the use of water for air conditioning in 1957 and in 1958 had made a survey of the use of such regulations.

There have not been many changes in regulations since then, he indicated. He suggested to the NEWS that possibly another such survey is due.

He looked upon such regulations as strictly a local problem.

Southwest Names 2

AURORA, Mo.—Roy C. Hauck, president and general manager of Southwest Mfg. Co., has announced the appointment of Tom P. Nolan as controller and Marshall Webb to be in charge of air conditioning production. Both were with Crane Co.

Irving Wenig Dies

NEW YORK CITY—Irving Wenig, 61, president of I. W. Air Conditioning Corp., Universal Convector Corp., and I. Wenig & Co., died recently at the Croydon hotel.

STANDARD ● Rotalock Valves ● Mounting Brackets

● STANDARD ROTALOCK VALVES

Formerly available only to manufacturers, Rotalock Valves can now be obtained through refrigeration wholesalers. The acceptance and utility of Rotalock Valves are attested by their widespread use throughout the country. These valves are made in both horizontal and vertical styles and may be rotated 360°, permitting their positioning to any angle corresponding to the direction of the tubing, thereby eliminating excessive labor on installations.

● STANDARD MOUNTING BRACKETS

Furnish an easy and effective means for top, bottom or side mounting.

● STANDARD CONVERSION ROTALOCK SPUDS

For use with existing receivers having F.P.T. inlets and outlets

NUMBER	MALE PIPE	FOR USE WITH ROTALOCK VALVE NO.
C.S. 374	⅜"	#24604 - 24608
C.S. 499	½"	#27035 - 27036 - 27037 - 27038 - 24602
C.S. 749	¾"	#24493 - 24494 - 24614 - 24615

STANDARD REFRIGERATION CO.

National Distributor for Primore Rotalock Valves

3014 FILLMORE STREET • CHICAGO 12, ILLINOIS

Frank Mutz Retires, Honored at Banquet

INDIANAPOLIS — Frank M. Mutz, chairman of the board, Peerless Corp., was honored recently at a dinner banquet held in the Columbia Club here.

Mutz retired from active participation in Peerless Corp. activities on March 31 but will retain his position in an advisory capacity.

Mutz started with Peerless in 1924 forming what is now the Retail Sales & Installation Div. He was in charge of this division until 1943 when he was elected president of Peerless, supervising both wholesale and retail sales and the manufacturing of central heating systems for oil, gas, and coal.

FRANK M. MUTZ (r.), chairman of the board of Peerless Corp., receives a plaque honoring his retirement from active participation as an officer of the firm. Presenting plaque is J. W. Barrow, executive vice president and treasurer.

He served as president until 1956 when he was elected board chairman.

During his years with Peerless, he has seen the company grow in personnel eight times that of 1924. In 1946, Peerless purchased Round Oak Co., of Dowagiac, Mich., and in October, 1960, acquired by merger the assets of The Moncrief Furnace Co., of Atlana, which is a subsidiary of Peerless.

The Peerless organization now distributes heating and air conditioning equipment in midwestern and southern states.

Cooling Off

Round Peg In Square Hole

It worked on television. But not in real life for Stanley Kaup of Los Angeles. Stanley got stuck when he tried to break into a variety store through the air conditioning duct.

He wedged himself so tightly into the 18-in. shaft that he hung upside down for seven hours before he was discovered and then freed by firemen. Police booked him on suspicion of burglary.

* * *

New U.S. embassy building at Karachi, Pakistan, a four-story, 117,000-sq ft structure, is completely air conditioned. But that doesn't make it too unusual.

What does is that the Pakistan government chipped in and paid the $300,000 labor costs on the building. Pakistan's contribution was a "thank you" payment for gifts of American wheat which helped avert a famine. This is said to be the first time a host nation has paid any part of the cost of a U. S. embassy building.

* * *

Just last month, the first Indian-built air conditioned luxury bus made its debut in Madras, where it is expected to attract tourists. Air conditioning system incorporates a gasoline engine drive condensing unit under the floor and evaporator unit on the roof, with control panel in the driver's cab. It was supplied by J. Stone & Co., (India) Pvt. Ltd.

Bus features 17 aircraft-type reclining seats, refreshment bar, lavatory, and public address system.

* * *

Speaking of air conditioned buses, Nashville, Tenn. has recently added 20 units to its fleet, Omaha has put 25 into service on its streets, and Newark, N. J. is trying out its first units on two routes.

* * *

In Detroit, a 6-ton air conditioning unit keeps temperatures down in a giant mobile television van for station WWJ-TV. The bright red van, 35 ft long, 12 ft high, and 9 ft wide, looks like a misplaced box car. Used to televise special events on location, it contains five television cameras, 5,000 ft of cable, and enough supplementary equipment to outfit a complete television station.

* * *

Beer, grapes, and pianos are being air conditioned by Drayer-Hanson equipment in recent installations. These were made at Coor's Brewery in Denver, the viticulture department of the University of California at Davis, and at the practice building at Miami University School of Music at Coral Gables, Fla.

* * *

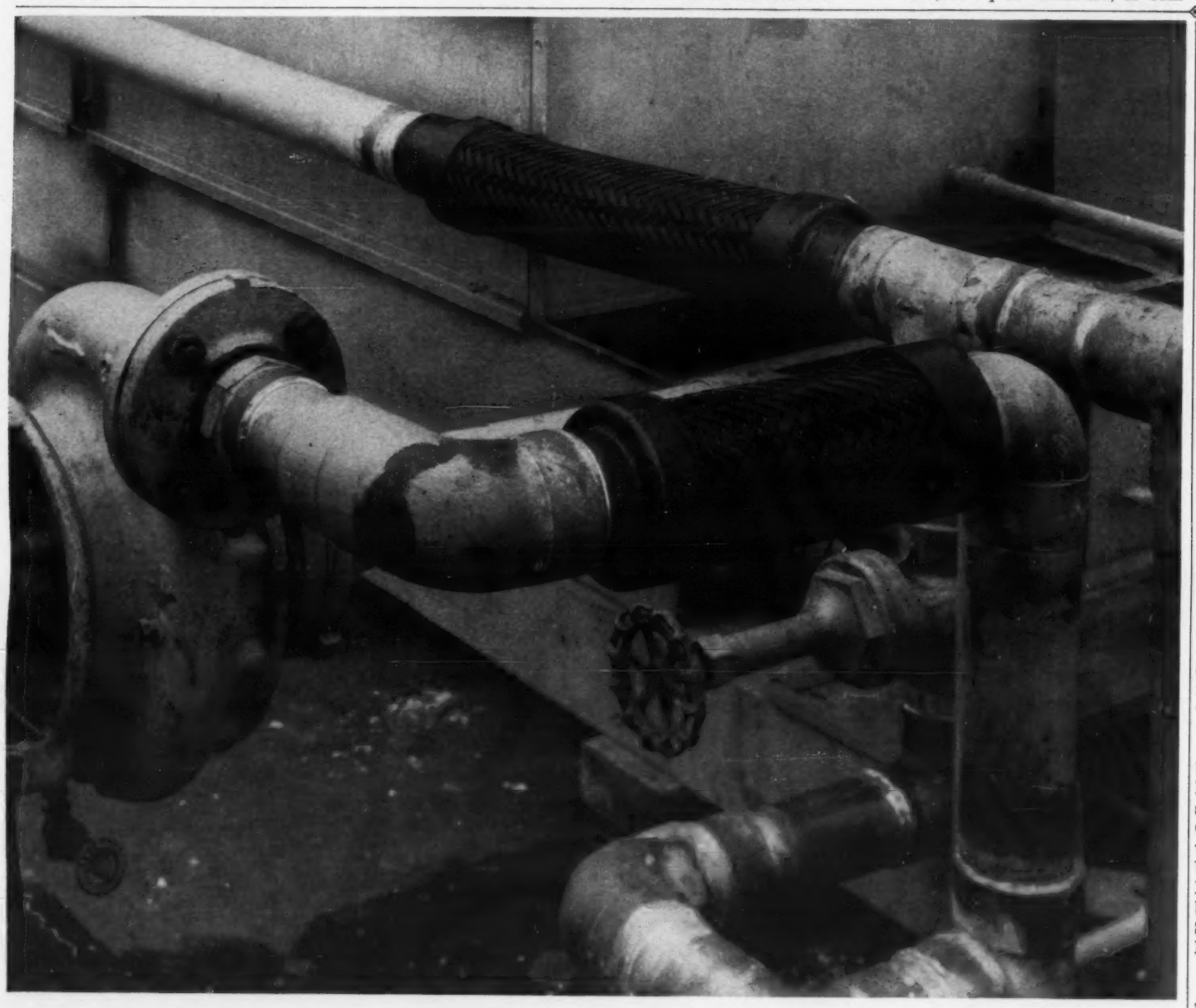
Catch-lines of recent advertisements appearing in the New York *Times:*

"If You Don't Have Air Conditioning Now, You're Paying for It Anyway," by York Wholesalers, Long Island City. Ad explains: "You're paying for it in terms of lost employe efficiency, employe absences, janitor bills, minimum store traffic. . . ."

"Cool, Sir, Cool! at the Barbizon-Plaza" by that hotel, which claims to be the "Only New York Hotel with 100% Fresh Air Conditioning In Every Room."

* * *

North Dakota wouldn't appear to be heat pump country, but the Baker Electric Cooperative with headquarters at Cando, 40 miles south of the Canadian border, is giving it a whirl. It is using an air-to-air heat pump with extra resistance heat to air condition its new windowless, single-story headquarters. Maybe Cando can do.



3½-inch I.D. Anaconda Vibration Eliminators on pump inlet and outlet lines of rooftop cooling tower for air conditioning system.

ANACONDA VIBRATION ELIMINATORS
absorb vibration, take punishment from weather

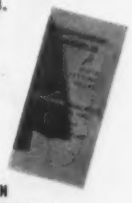
Here's a rugged outdoor assignment for Anaconda VE's. Installed on a rooftop, braving all weather and temperature extremes, these units absorb damaging vibration on the pump inlet and outlet lines of a 70-ton cooling tower for plant air conditioning. No failures . . . no maintenance required.

Anaconda Vibration Eliminators—recognized by Underwriters' Laboratories, Inc., under File SA2585—are sold by leading air conditioning and refrigeration wholesale distributors everywhere. For engineering information, write: Anaconda Metal Hose, P.O. Box 791, Waterbury 20, Connecticut. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario. 61-640

VE's ARRIVE CLEAN, READY TO USE—

They're sealed in polyethylene envelopes—packed in sturdy, easily identified boxes. When you open the package, your quality VE's are factory-fresh—clean inside and out—ready to install in the lines.

WRITE TO DEPT. AC FOR HANDY GRAPHIC SYMBOLS BOOKLET. Quick, easy key to all symbols used for pipe fittings, valves and piping.



ANACONDA® VIBRATION ELIMINATORS

The inside story of . . .

SIX ADDED VALUES IN NEW GENERAL ELECTRIC FAN MOTOR

1

Tripled supply of oil, now standard on all models. Gives added assurance of long, maintenance-free life.

2

Improved bearing system means same motor rating can do a bigger job, or same job with longer life.

3

New integral insulation system improves motor life and dependability; reduces noise.

4

New punching design results in up to 20 percent higher operating efficiencies.

5

Alkanex* insulation on wire provides superior resistance to heat aging, giving longer life.

6

Multi-function Surge Test adds new levels of quality control to assure design excellence is retained through the manufacturing process.

*Registered Trademark of General Electric Co.

When you use a General Electric 51-frame motor on your refrigeration or heating equipment, you're making certain that the motor is a strong link in the reliability and life of your product. Motor performance can mean the difference between profitable repeat business and customer dissatisfaction with your products.

Specify the General Electric unit-bearing, shaded-pole fan motor which gives you six advantages detailed in the cutaway above. These six added values mean the 51-frame motor is designed to match and even outlast the life of other components in your equipment.

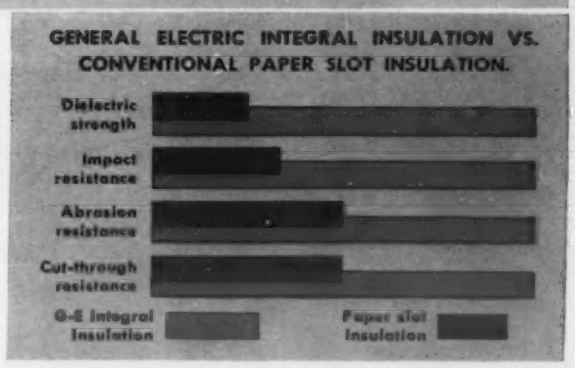
Four-pole, totally enclosed ratings are 1.5 to 16 watts, 60/50 cycles, 115 and 230 volts, single phase.

11-, 21-, AND 33-FRAME MOTORS ALSO AVAILABLE

Three other General Electric motor frame sizes are also designed for *heating and refrigeration applications.* The dependable, long-life 11- and 21-frame G-E shaded-pole fan motors give you a wide application range. Four-pole, totally enclosed ratings are: 60 cycles, 115 and 230 volts, single phase, 15 mhp to 1/20 hp (11-frame) and 1/15 to 1/10 hp (21-frame). Both frame sizes have integral insulation system for longer, quieter operation, and new punching design for up to 20 percent greater operating efficiency.

Rounding out the line is the Unitized† 33-frame motor with two-pole, open ratings of 0.75 to 15 watts, 60 cycles, 115 volts, single phase. Ask your General Electric Sales Engineer for more information on these four motors and how they can be applied to your refrigeration or heating products. Or write to Section 727-03, General Electric Company, Schenectady 5, New York.

† Trademark of General Electric Co.



Superior on four important counts—that's the General Electric integral insulation system. Compared to conventional paper slot insulation, integral insulation has: four times the dielectric strength; three times the impact resistance; twice the abrasion resistance; and twice the cut-through resistance. And, unlike paper slot insulation, it is completely impervious to humidity. Integral insulation is standard on General Electric 33-, 51-, 11-, and 21-frame motors.

General Electric's complete line of shaded-pole heating and refrigeration fan motors: (l. to r.) 33-, 51-, 11-, and 21-frame.

Progress Is Our Most Important Product

GENERAL ELECTRIC

Hydronic Space Heater Houses Own Pump, Can Operate Off Existing Hot Water Tank

CLEVELAND—What it calls "a major step forward in the field of hydronics" has been announced by the Thermal Specialties Div. of Iron Fireman Mfg. Co.

Iron Fireman's research and engineering lab, the company said, has developed a unique hot water unit heater—now in the test market stage—which can operate off the same tank that supplies hot water for baths, laundry, and dishes (local codes permitting). A key feature of this heater is that it houses its own water pump.

The new heater "is a simple, compact unit designed chiefly to provide supplemental heat for 'hard-to-heat' rooms or to heat added-on areas," it was stated. "These heaters can also be used to heat an entire structure.

"This heater," the company said, "requires only three simple steps for installation: just pipe it to a hot water source fired by oil, gas, coal, or wood—water-heating boiler, steam boiler, or domestic hot water tank—plug in the provided 8-ft extension cord into an electrical outlet and connect the low-voltage thermostat."

Assuming an output of 7,500 Btuh and a total of 1,000 hours of operation, Iron Fireman's engineers say the annual cost of using their new unit would be: with gas at 80 cents per 1,000 cu ft—as little as $11; with oil at 16 cents per gallon—as little as $15.

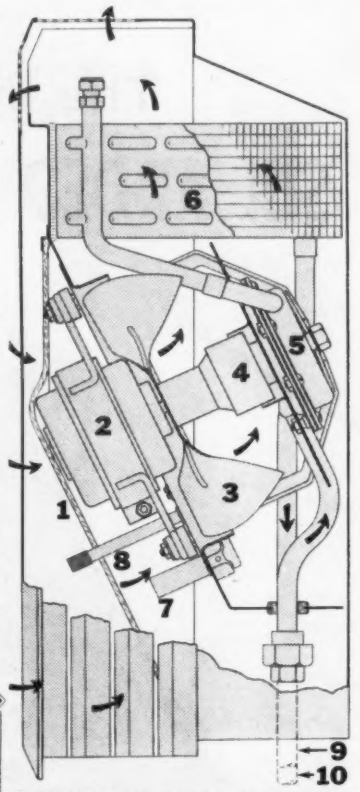
"Heart of this new development," it was explained, "is a new ceramic magnetic drive which now makes it practical to produce a hot water unit heater with its own circulating pump and a small motor. Since the pump impeller is driven by the motor via magnetic coupling, there are no water seals—and consequently no high friction power requirement to drive the pump."

SELF-CONTAINED hydronic package is new hot water space heater now in market development stage by Thermal Specialties Div. of Iron Fireman Mfg. Co. It can be recessed in wall or mounted on free-standing frame.

This heater, the company said, is a self-contained hydronic package that circulates hot water through the unit and filters and distributes temperature-controlled warm air.

"A single motor (small 3-speed, tap winding, shaded-pole type) drives both the fan and the water circulating pump," it was pointed out. "Because there are no seals, the pump cannot leak. It will safely withstand, and operate on, any city water pressure up to 200 psi.

"The magnetic elements are of barium ferrite, a ceramic, rustproof, permanently magnetic material. All other elements are of stainless steel, copper, and brass.



AIR FLOW DIAGRAM and key components of hydronic space heater are shown above. 1—air filter, 2—fan and pump motor, 3—fan, 4—magnetic drive, 5—sealed water pump, 6—high pressure radiator, 7—thermostat relay, 8—motor speed control, 9—supply line, and 10—return line.

"Another factor making for economical operation is that the motor speed is controlled by tapped windings rather than a rheostat. This reduces power consumption on lower speeds. Power requirements on high, medium, and low speed with this unit are about 90, 45, and 35 watts, respectively."

A built-in, adjustable control provides the three output speeds. Individual thermostatic control is standard equipment.

Output of the heater is said to be from 5,000 Btuh at an entering water temperature of 120° to 16,500 Btuh at 220°.

Iron Fireman stressed that its hot water heater is still in the market development stage, but added it foresees no production or marketing obstacles.

The unit can be recessed in the wall—4 in. in an area 14 in. wide and 18¼ in. high—or mounted on an optional 'free standing' frame. Front enclosure and grille material are of 18-gauge steel, while the cabinet is of 20-gauge steel. The front enclosure, when the unit is recessed, projects 4½ in. from the wall. The neutral-colored grille can be finished by the user to blend with any room decor.

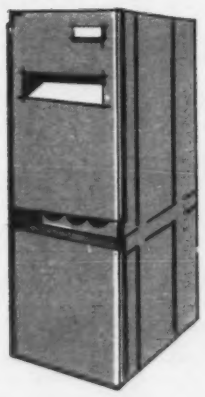
To facilitate use of the thermostat, Iron Fireman uses a built-in transformer relay. This reduces voltage to the thermostat to 6 volts, permitting use of a less expensive two-conductor thermostat wire, it was pointed out.

Another feature of this heater is a permanent urethane foam filter which can be washed and put back in.

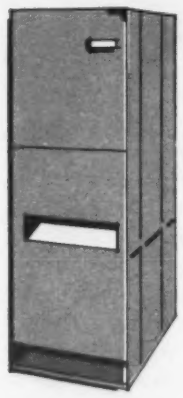
NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

GM Delco ANNOUNCES A HOT NEW GAS LINE

GM-DELCO engineers have designed a complete new line of gas-fired Conditionair furnaces for 1961. This new GM-DELCO line includes the refinements that dealers and builders want most. It's designed to accept air conditioning for complete central heating and cooling. Handsome, durable, efficient and compact units—easily installed. Brand name acceptance makes the new 1961 GM-DELCO line easier to sell.



NEW 1961 GM-DELCO HIGHBOY. Available now in 70, 80, 100 and 125,000 BTU input capacity. Other models up to 190,000 BTU input are available. Easily installed in closet or corner locations with zero clearances, low enough for basement installations.



NEW 1961 GM-DELCO COUNTERFLOW MODEL. Here's a convincing answer to dependable, low-cost installations. Ideal for perimeter systems in crawl space or slab homes. Durable cast iron slotted burners and super-quiet blowers are featured throughout the new 1961 line.

NEW 1961 GM-DELCO HORIZONTAL GAS FURNACE. Designed for installation in utility rooms, attic areas, crawl space and suspended applications. Models run from 60,000 to 140,000 BTU input. Tested and approved by the American Gas Assn. for use with natural, manufactured, mixed and L.P. gases.

THE NEW 1961 GM-DELCO LINE is handsomely and durably finished in Sahara Tan and Cameo Beige and features the sheer modern lines which lend fine appearance and make installation in limited space possible. The entire line has been engineered to accept the Delco air conditioning units that are part of GM-Delco 365 Conditionair systems.

Whatever the type of home, whether traditional or modern, full, half or no basement, one or two story, split-level—there are GM-DELCO heating or air conditioning systems engineered to the highest reliability standards to meet all your requirements.

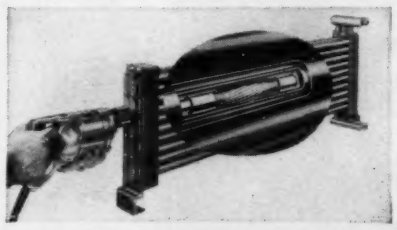
GM Delco 365 CONDITIONAIR

DELCO APPLIANCE DIVISION, GENERAL MOTORS CORPORATION, ROCHESTER 1, N.Y.

"Here's why I always pick H & M water-cooled condensers

...you can clean them safely because you clean them mechanically!

"Time was when I used chemicals to clean out the scale and sludge in my water-cooled refrigeration systems. But soon I found out that the chemicals were doing damage not only to the condensers but the cooling tower and pump, too.



"Now I always buy Halstead & Mitchell Water-Cooled Condensers, because they can be cleaned safely with a simple mechanical tool and an ordinary electric drill. The end plates remove easily to expose the water tubes."

Another good reason to choose H & M condensers: they give more liquid sub-cooling because of the double-tube design and true counterflow of refrigerant and water.

There are five different types, including models for sea water or poor water conditions, in capacities of ⅓ to 25 tons.

Call your parts wholesaler for more information, or write for Bulletin WC-300. Halstead & Mitchell Co., Dept. H-62, Bessemer Building, Pittsburgh 22, Pa.

Water-Cooled Condensers • Air Handlers and Coils • Cooling Towers • Air-Cooled Condensers

Export Representatives: Sabal-Kielmann, Inc., 15 William St., New York 5, N. Y.

HM Halstead & Mitchell

Heat Pump Dilemma

More Heating Capacity Desirable But Not Practical Now

SYRACUSE, N. Y. — "Presently marketed heat pumps seem to be a good economic compromise from the standpoints of the manufacturer, the owner, and the electric utility," states Stanley F. Gilman, advance development engineer, Unitary Products Dept., Carrier Air Conditioning Co.

"Development of a heat pump that does not require supplementary resistance heat in colder climates does not appear to be economically feasible," Gilman stated in a paper prepared for presentation before the American Institute of Electrical Engineers.

Recognizing that a desirable objective is the development of a means of increasing the heating capacity of a heat pump while maintaining the same cooling capacity, in order to reduce or eliminate the need for supplementary heat, the Carrier engineer described a study of several methods of accomplishing the objective.

THE SYSTEMS STUDIED

Standard System (System A). This is the currently marketed two-piece unit referred to previously and serves as the basis of comparison. This heat pump utilizes a single hermetic reciprocating compressor and includes provision for one to three increments of electric resistance heat to supplement the heat pump heating capacity during colder weather.

Constant Power System (System B). This displacement of the compressor is considered to be infinitely variable. Furthermore, the displacement is varied such that the driving motor draws the same kw regardless of the outdoor dry-bulb temperature. The selected constant kw draw is that corresponding to the unit's standard ARI cooling rating at 95°F outdoor dry-bulb temperature with indoor conditions of 80° dry bulb and 67° wet bulb. Electric resistance heaters are used for auxiliary heat when needed.

Load Matching Systems (System C). As with System B the displacement is considered to be infinitely variable. However, in System C the displacement is varied so that the heat pump heating capacity just matches the house heat requirement at each outdoor dry-bulb temperature. No auxiliary heat is required.

Two-Stage System (System D). The compressor of System A is used as the high stage and a two-cylinder reciprocating compressor at approximately twice the displacement is used as the low stage. This system supplies the heat requirements of the structure down to 5° outdoor dry bulb, so little or no resistance heat would ordinarily be required. At temperatures above the 30° balance point, the low stage compressor is inoperative; hence, performance is similar to System A. From 30 to 25° outdoor dry bulb, only one of the low stage compressor cylinders is operative.

After discussing the methods of analysis used in the study, Gilman offered his conclusions:

"The heating capacity of an air-source heat pump decreases, whereas the structure heat requirement increases, as the outdoor dry-bulb temperature falls. The ratio of maximum heat requirement-to-capacity is large in 0° design areas, particularly for residences. . . . The situation is somewhat improved in 10° design areas, but the ratio of maximum heat requirement-to-capacity still tends to be such that considerable extra cost would be required to develop a heat pump which does not require supplementary resistance heat.

"By varying the compressor displacement or using two stages of compression, the heating capacity of conventional systems can be increased considerably without increasing heat exchanger sizes. However, a heat pump having sufficient capacity for the design heating requirement will require more heat exchanger surface than needed for summer cooling if substantial savings in operating costs are to be realized.

"Thus," Gilman stated, "it becomes evident that a marked increase in heat pump heating capacity will add considerably to the initial cost of the year-round air conditioning system. In contrast, the initial cost of supplementary electric resistance heaters is very nominal."

Modine Names Two Project Engineers

RACINE, Wis.—Appointment of James C. Lutter and Robert L. Hunter as senior project engineers in the heating and air conditioning division of Modine Mfg. Co. has been announced by R. L. Hagensick, chief engineer of the division.

Lutter will be senior project engineer in charge of Modine's horizontal, vertical and cabinet unit heaters, fan coil units, and "School-Vent" equipment. Hunter will be in charge of direct-fired gas heating products.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Series 219 without external range adjustment
Series 219 space thermostat with range adjustment knob and integral air bulb
Series 219 with external range adjustment
LOOK WHAT'S NEW IN REFRIGERATION
TEMPERATURE CONTROLS
Series 239 has both external range and differential adjustment.

Now! Compact size, highly accurate repeat performance, plus other new sales features!

Here's a new line of small, compact, Penn refrigeration temperature controls which has a *wider range* of applications with *fewer models.* The Series 219 has a fixed differential while the Series 239 differential is adjustable. Rated at 16 Amps., these models feature extremely close differential, precision "repeat" accuracy, and are not affected by barometric pressure or cross ambient temperature problems. Extra features include built-in conduit fitting on Series 219, visible linear scale and small bulb size. Closed-tank fittings and bulb wells as well as built-in compensation for ambient temperature are also available. Learn more about these controls . . . write for Bulletin 3270.

PENN CONTROLS, INC. Goshen, Indiana

EXPORT DIVISION: 27 E. 38th ST., NEW YORK, N.Y.

AUTOMATIC CONTROLS FOR HEATING, REFRIGERATION, AIR CONDITIONING, APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

VIRGINIA Chemicals®

REFRIGERATION BULLETIN

"Helpful facts for the serviceman"

HOW TO INSULATE PIPES EASILY AND QUICKLY

Big advantages of preformed insulation

For new pipe lines and those already installed, preformed insulation offers valuable advantages. The most important are ease of installation and saving in labor. It can be applied in as little as half the time required for other types of pipe insulation. And it offers the added benefit of a smooth, finished appearance when applied.

Characteristics of VascoCel Insulation

Made of soft, highly resilient Neoprene, preformed VascoCel offers the surest, easiest way to stop condensation and sweating of air-conditioning and refrigeration equipment lines. Its light weight and flexibility make it unusually easy to handle and to apply.

Moisture-Proof—Its closed cellular structure provides an excellent barrier against moisture.

Insulates—It provides thermal insulation at temperatures from 0 to 220°F.

Nonabsorbent — An immersion test revealed absorption of only 7% by weight in 15 days! And its resistance to air penetration is 100% effective.

Durable—The resistance of VascoCel to penetration by air and water means unusually long service life—cuts maintenance costs on equipment.

Resists Oils, Ozone, Acids, Alkalis, Solvents—All have little effect on VascoCel, other than causing it to swell slightly.

Safe—It is self-flame-extinguishing and therefore incapable of conducting a flame, as from room to room.

VASCOCEL

SPECIFICATIONS

Wall Thicknesses	⅜ in., ½ in., ¾ in.
Density	7.88 lb. per cu. ft.
K factor* (120°F)	0.30
Flammability	Self-flame-extinguishing
Average Water Absorption	7.21% weight gain
Average Air Transmission	0.00014 cu ft/hr/sq ft
Average Water Vapor Transmission	0.0583 perm† at 80°F ambient and 78% relative humidity

*K Factor: Heat conductivity expressed in Btu in. of material thickness/sq ft/ F difference/hr.

†Perm: A measure of vapor conductivity of ½ in. wall VascoCel expressed as grains of moisture/sq ft/hr/in. of mercury pressure difference.

Quick easy installation

For new tubing—VascoCel slides over new tubing or pipe like a sleeve. Fits snugly, even on bends up to 45°. For sharper angles it can be cut in a miter box and fitted onto the pipe. Sealing with VascoCel Adhesive produces a permanent, air and moisture-tight joint.

For installed tubing—Slit VascoCel lengthwise with a sharp knife or razor blade. Slip over and around the tubing and seal with adhesive.

NOTE: *When applying the adhesive* always *wait until the adhesive is nontacky to the touch before making the seal.*

HOW TO MAKE FITTINGS

Tools you need

- A miter box
- Suitable cutting blade (saw-edged breadknife)
- Single-edge razor blade for slitting insulation
- Special adhesive (VascoCel Adhesive is recommended)
- Adhesive applicator (brush or slim piece of springy metal)

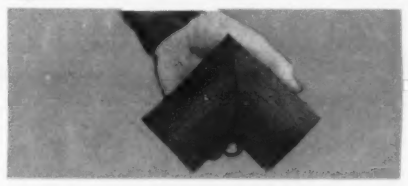
When cutting the insulation in the miter box, move the blade back and forth, letting the teeth do the work. Do not press heavily. This deforms the tubing and can cause an inaccurate cut.

The Tee

Cut 3 pieces of tubing. One takes a single 45° miter box cut. The other two require a double 45° cut each. Apply special cement to cross sections where they have been cut and fit together as shown in Fig. 1. Spread adhesive in a thin, even coating, covering all edges thoroughly. Allow to dry (nontacky to touch) before joining sections.

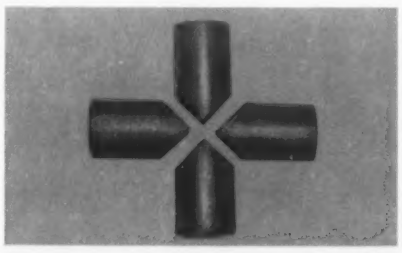
The Elbow

To make an elbow, use two sections, each with a single 45° cut. Apply adhesive and press firmly together, as in Fig. 2.



The Cross

Prepare four sections, each double-cut and join with adhesive as shown in Fig. 3.



See back page for full line of refrigeration products ▶

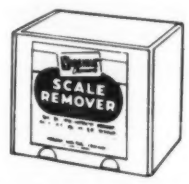
FOR TROUBLE-FREE MAINTENANCE USE "VIRGINIA" REFRIGERATION PRODUCTS

"Virginia" Scale & Corrosion Inhibitor

Reduces scale buildup sharply, keeping scale-forming solids in suspension or solution. Less scale, less labor, lower maintenance costs.

"Virginia" Liquid Scale Remover

Ideal for heavy scale. Dissolves 3 lb. of scale per gal. Works fast. Inhibited to prevent metal damage. (Anti-foam agent and test papers included with every container.) Light shatterproof throwaway container for easy handling and easy pouring.



"Virginia" Solid Scale Remover

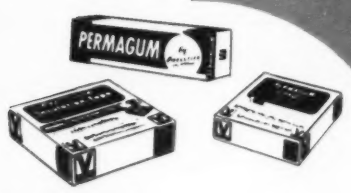
Highly inhibited—safe for use on galvanized, dipped zinc and aluminum water-cooled equipment. Destroys algal growth. Contains 96% sulfamic acid.

"Virginia" Algae-Cides

Adaptable to the special use requirements in (1) towers, (2) evaps, (3) air washers, and (4) ice machines and drip pans. A new No. 4 high-potency formula kills the tough resistant types of algae.

"Virginia" Ice Machine Cleaner

Eliminates slow freezing, bad taste and odor. Will not injure enamel or polished metal surfaces. Highly effective on automatic cube or flake ice machines.



Presstite Insulation

Tape—ideal for stopping pipe drip. Adheres to any dry surface. *Permagum slugs*—seals seams, copper tube, BX and conduit entries against moisture. *Cords*—nonstaining, odorless, shaped for use on display cases, freezers, room coolers, etc.

Du Pont FREON® Refrigerants

Nonflammable, nontoxic, stable, odorless

Best known for premium quality. Most widely used refrigerants in the industry. "Virginia" is the only national sales agent for Du Pont "Freon". F-11,* F-12,* F-13,* F-22,* F-113* and F-114* are available in cylinders of all popular sizes.

**Du Pont registered trade mark*

VascoCel Insulation

Preformed of soft, durable, clean, odorless Neoprene. Cuts time and labor costs sharply. Closed-cell structure makes condensation impossible. Ozone, oil, acid, and fungus resistant. Application temperature range 0-220°F. Available in ⅜", ½" and ¾" wall thickness.

"Virginia" Degreasing Solvent

No. 10 has low toxicity, is noncorrosive and fast drying. High flashpoint of 154-160°F reduces fire hazard; dielectric strength 20,000 volts.

Ask about "Virginia" "Freon 11" Cleaning Solvent for motor burnouts.

"Suniso" Refrigeration Oils

G Oils are improved for greater stability and lower waxing point. Available in 3G-150 SSU, 4G-300 SSU, and 5G-500 SSU. Dual Inhibited oils have same low wax point, resist breakdown and copper-plating even more effectively.

Can-O-Gas® Packaged Refrigerants

Throwaway cans—full line in screw-top or clip-top cans. Wide variety of preweighed charges, accurate to ±4 grams. Selection of Freon® gases, sulfur dioxide, and methyl chloride.

Carried by wholesalers everywhere. Order from one nearest you or contact Refrigeration Division, VIRGINIA SMELTING COMPANY, West Norfolk, Va.
Available in Canada and many other countries

"Virginia" is the only national sales agent and authorized repacker for Du Pont's "Freon" Refrigerants.

D77 Form 523

Printed in U.S.A.

Sales Presentations (2)

Differ for Architects, Consultants, Contractors

John O. Roth, marketing manager for Dunham-Bush, West Hartford, Conn., frequently writes sales training lessons for distribution within the company. Some of Roth's material is of such general interest that the NEWS publishes pertinent portions here. Especially of interest is the slanting of sales presentations toward consulting engineers, architects, and contractors. In this second instalment Roth discusses sales to consulting engineers.

●

The consulting engineer has as his task, the recommending of equipment to a customer. Equipment that he believes sincerely will do the best possible job for his customer. Since that is his responsibility you may reasonably expect him to be anxious that his recommendations will not prove in error.

The engineer wants above all, FACTS and STATISTICS, anything that will prove to his satisfaction that your product deserves recommendation on his part. Manuals, specifications, schematics, diagrams, such helps will enable him to KNOW, not GUESS, what your product is capable of accomplishing, and why.

Others Considered

The engineer has to consider not only himself but anyone who may be associated with him in the project under consideration. Contractors, architects, and their respective staffs, all must be carefully rather than casually thought about. If your product will help conserve time and effort for his associates he will be impressed favorably. If the use of your product might cause even the slightest impediment in the satisfactory completion of this project, where they are concerned, he wants to know about this before, not afterwards.

The engineer places a high premium where standardization is concerned. If your product deviates from the normal there had better be a very valid reason for this deviation. For such deviations might make it impossible for a competitor to enter his product along with yours for consideration.

Flexibility, too, is of the essence. No two projects offer the same physical setup, and if your product is equipped to meet the specific needs of the moment, it will be considered in preference to that of a competitor's which does not enjoy the same degree of flexibility. The more leeway your product offers all associated with a project the more chances you have of selling it to your prospective purchaser.

Exterior Design

The engineer will also consider the exterior design of your products. Do they coordinate and harmonize with each other? Will they fit into the space allocated to them? Are they attractive to the eye? Such questions are important where the engineer is concerned.

Finally, your engineering prospect will be especially appreciative if you call to his attention any new or unusual applications your product may possess. The more simple the application, the more meritorious it will appear in his eyes. If there are specific ways your product can help conserve either time or effort for the engineer and his associates, this, too, will be a plus factor where making the final decision is involved.

(To Be Continued)

Coleman Offers Bond For Best Story on Use of Warranty Bond

WICHITA, Kan. — Coleman Co. is currently offering a $1,000 U. S. Savings bond to its dealers for the best story on how the dealer used the company's $500 Warranty Bond to close an air conditioning sale.

To find this story, the company is sponsoring a "Get In The Bucks" contest for dealers and dealer salesmen. In addition to the $1,000 bond, it is offering prizes consisting of a $500 bond, a $100 bond, and 10 Coleman "Snow-Lite" portable food and beverage coolers.

Coleman representatives have a stake in the contest, too. They are urged to help dealers write their stories by offering the representative a duplicate prize of whatever the dealer might win.

Contestants have until July 31 to submit their entries. The sale they describe can occur anytime prior to that date. They can describe more than one sale if they wish, making each a separate entry.

Entries will be judged by a panel of "impartial experts on air conditioning merchandising" on three basic points: effective use of the bond, general interest, and helpfulness of the information to other dealers.

Dealers are asked to show effective use of the bond in making sales that would have been difficult without it.

WITT REMOTE AIR COOLED CONDENSERS

With The Low Silhouette

Efficiency, economy, dependability—those three words most effectively describe the operation of Witt Air Cooled Condensers. Available in a wide range of centrifugal blower and fan type models, for single or multiple compressor installations, for indoor or outdoor applications, you'll find a Witt Air Cooled Condenser to handle any size air conditioning or refrigeration system. Winter control systems available for low temperature areas —multiple circuiting available at no additional charge.

Write For Complete Witt Catalog

A. H. WITT COMPANY, INC.
940 N. Sycamore Ave., Los Angeles 38, Calif.

parts
tubing
tube design
When it comes to all three, one name stands out. Whether it's tubing you want — in brass or copper, in coils or straight lengths — tubular parts, or help with a difficult design problem, H & H stands ready to serve you. One call, one contact, one responsibility has long been part of the H & H merchandising policy. As a result the customer is served better, faster. Next time, why not call VI2-3600 in Detroit, collect, and find out for yourself.
Better Brass and Copper Products Since 1930
H & H TUBE AND MANUFACTURING CO.
271 North Forman Avenue, Detroit 17, Michigan • Offices from Coast to Coast
SEAMLESS
LOCKSEAM
COIL STRIP
STRAIGHT AND COILED TUBE
TUBULAR PARTS
H & H offers all three
PLANNED FOR PRECISION

NFPA Approves Revisions to Safety Standards Affecting Air Handling

DETROIT — Revisions of standards pertaining to air conditioning, heating, and ventilating systems, blower and exhaust systems, and water-cooling towers were approved at the 65th annual meeting of the National Fire Protection Association held recently at the Statler Hilton hotel here.

In addition, members tentatively approved—after some discussion pro and con—a proposed standard for the protection of electronic computer systems. This includes several references to air conditioning.

These were among more than 65 new and revised fire safety standards offered at the meeting by NFPA technical committees. NFPA standards are widely made the basis for ordinances and regulations relating to fire safety, and also extensively used by commerce and industry as the basis for good practice, the association noted.

Revisions To 90A

One of the standards revised is No. 90A: Standard for the Installation of Air Conditioning and Ventilating Systems of Other than Residence Type. The important features of the revisions, proposed by the Committee on Air Conditioning, are to:

(1) Prescribe non-combustibility of duct linings and coverings; (2) eliminate the permitted use of rigid asbestos sheet material in fire dampers; (3) require that fire dampers be provided on each opening through the wall of a required enclosure of a vertical opening; and (4) prohibit the use of an evaporative cooler containing excelsior.

The only comment from the floor regarding the proposed revisions to this standards came from an Air Force representative who recommended that for the purpose of clarification, the phrase "including vapor barrier" be inserted after the word "coverings" where the word occurs in revised paragraph 114 (b) in the section dealing with construction of ducts.

Text of Revision

This was approved. The revised paragraph reads:

"Linings, coverings including vapor barrier, and insulations shall have a flame-spread rating not over 25 without evidence of continued progressive combustion and with a smoke developed rating not higher than 50. If the linings, coverings including vapor barrier, and insulations are to be applied with adhesives, they shall be tested as applied with such adhesives, or the adhesives used shall have a flame-spread rating not over 25 and a smoke developed rating not higher than 50."

Among other revisions to Standard 90A were these:

In the section on automatic fire doors and dampers, the following sentence in paragraph 132 was deleted: "One half inch approved rigid asbestos sheet material may be used at points where steel dampers are specified, when permission of the authority having jurisdiction is granted."

In the same section, paragraph 134 was revised by adding the italicized phrase: "An approved fire damper shall be provided on each opening through a required fire partition *and each opening through the wall of a required enclosure of a vertical opening.* See Fig. 5."

In the section on air filters, the following sentence was added to paragraph 151 (a): "An evaporative cooler containing a combustible filter and water evaporation medium, such as excelsior, shall not be used."

The italicized word was added to the first sentence in paragraph 151 (b):

"The installation of approved automatic extinguishing equipment employing water, *inert* gas, or other approved means in the enclosure of the air conditioning system to protect against combustion of material that may accumulate is recommended for systems other than those of the unit or cabinet type with blower capacity not exceeding 20,000 cubic feet per minute and which supply only one floor area or a portion thereof."

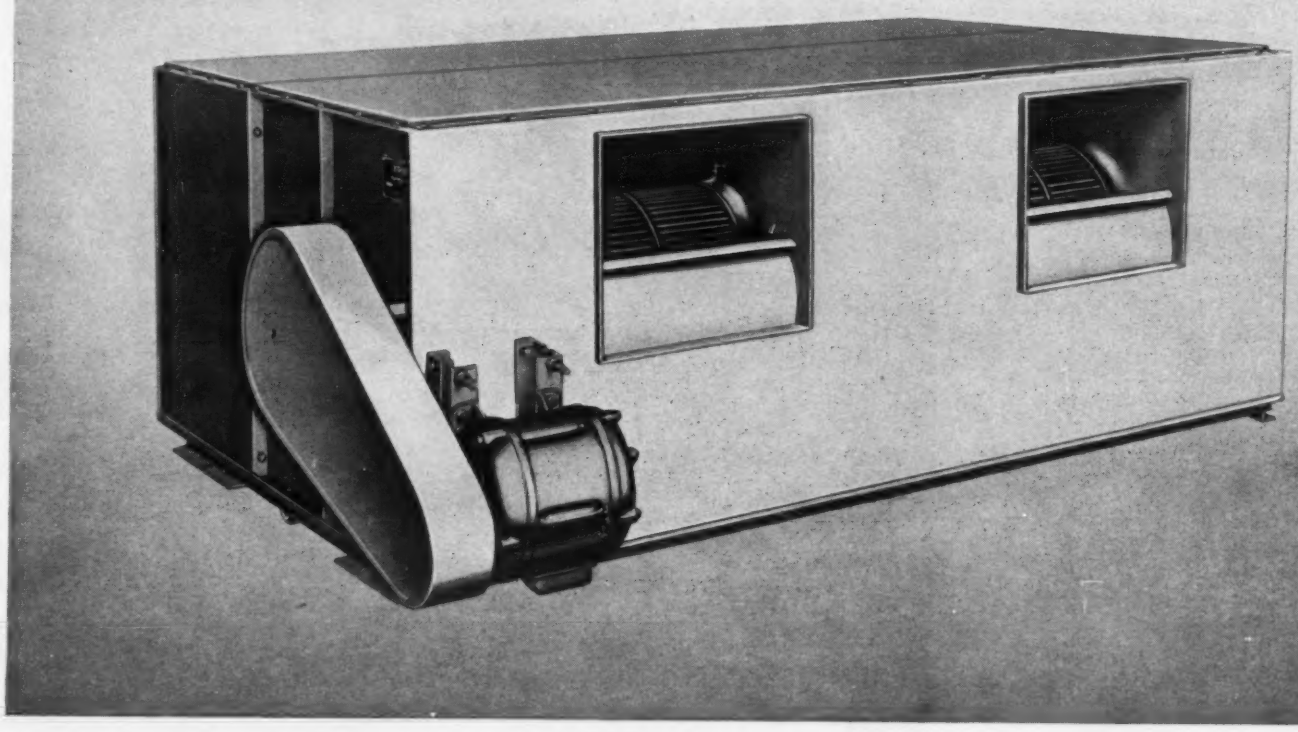
In the section on air cooling and heating equipment, the first sentence of paragraph 193 was changed to read:

"Heating furnaces and cooling units using the same duct system and blower shall have the refrigeration coil located downstream from the heating furnace, unless the heating furnace is specifically approved for installation downstream from the coil, or the coil is located parallel to the heating furnace."

In the section on smoke detectors, the italicized phrase in the following sentence was added:

"Photo-electric *and other smoke detection equipment* are available which can be arranged to sound alarms, shut down fans, close dampers, actuate fire extinguishing

You'll solve more with Trane Central



Here's why TRANE Climate Changers solve more difficult application, installation and maintenance problems:

- **Compactness.** Substantially reduced dimensions solve problems of limited installation space while maintaining top performance.
- **More sizes.** For efficient application flexibility, there are 14 sizes in the Standard (draw-through) type, and 13 sizes in the Multi-Zone double duct (blow-through) type. Each type covers the range of 6 to 63 sq. ft. coil face area.
- **Reliable ratings.** TRANE Climate Changers are fully tested and accurately rated as complete assemblies.
- **Exclusive one-inch O.D. tube non-freeze steam coil.** Provides uniform leaving air temperature over full face area of coil down to 6 per cent of full loading.
- **Exclusive Multi-Zone damper design** provides positive all-round seal for both hot and cold decks to eliminate leakage.
- **Life-lubricated ball bearings** prevent start-up damage due to improper on-the-job lubrication procedures. Eliminates time-consuming lubrication maintenance.
- **Improved mixing box** and damper design assures complete mixing of outside and return air, eliminates stratification.
- **Complete fan assembly electronically balanced** in unit before shipment, assures unit will operate without vibration.

Advanced engineering features assure high performance of Trane Coils!

The TRANE Sigma-Flo Fin design increases heat transfer efficiency. Casing design reduces over-all dimensions, eliminates air by-passing the coil, minimizes moisture carry-over on dehumidifying coil. Heating coils feature a non-freeze design with one-inch O.D. tubes as standard. The cooling coil line features an all-purpose coil, a completely drainable coil, a completely cleanable coil and a direct expansion coil. Sigma-Flo Fins have S-shaped contours to assure uniform air turbulence over the *total* fin. The result is high heat transfer efficiency. Tubes are mechanically expanded into wide fin collars to provide a permanent solderless bond.

These advanced engineering features are yours in *standard* TRANE Coils—priced competitively with conventional coils! Ask your nearby TRANE Sales Office for complete facts on these coils—and about the cooling coil selection method (exclusive with TRANE) that saves time, assures unparalleled pinpoint accuracy!

equipment or perform other functions."

Revisions To 90B

The Committee on Air Conditioning also presented for adoption several revisions to Standard No. 90B: Standard for the Installation of Residence Type Warm Air Heating and Air Conditioning Systems.

The important feature here is that of increasing the required clearance above and at the sides of the bonnet or plenum of listed automatic forced air or gravity systems with 250°F temperature limit controls, from 1 in. to 2 in.

In this standard, paragraphs 141 (b) and Section 143 were revised to read as follows:

"141. (b). Where ducts are adjacent to plaster on metal lath, or to other noncombustible finish attached to a combustible material, the clearance shall be measured to the combustible material, except that the clearance shall be measured to the surface of the plaster or other noncombustible finish where a clearance of 2 inches or less is specified above a bonnet or plenum chamber or above supply ducts. This shall not be construed to prohibit closure of openings with noncombustible material where ducts pass through walls and partitions, as provided in par. 143 (e).

"143. **Clearances From Horizontal Supply Ducts.** Minimum clearances from horizontal supply ducts shall be as follows.

"(a). Within a distance of 3 feet of the plenum of a system classified under A or C of Table I, the clearance shall be not less than that specified above the bonnet or plenum.

"(b). Within a distance of 6 feet of the plenum of a system classified under B or D of Table I, the clearance shall be not less than 6 inches. From ducts of furnaces classified under D, the clearance shall be not less than one inch beyond 6 feet from the plenum to a point where there is a change in direction equivalent to 90 degrees or more.

"(c). From ducts of furnaces classified under Item F of Table I the clearance shall be not less than 18 inches out to 3 feet from the bonnet or plenum, not less than 6 inches from 3 feet to 6 feet, and not less than one inch beyond 6 feet.

"(d). Beyond the distances from the plenum or change in direction specified in pars. 143 (a) and (b), no clearance is required.

"(e). Where a horizontal supply duct passes through or pierces a partition or enclosure constructed of combustible material, within the distances or point of change in direction specified in pars. 143 (a), (b), and (c), the clearance shall be not less than that specified in those paragraphs. The ends of the space providing this clearance may be closed with a thimble and collar or the wall surfaces extended to the duct with non-combustible building material such as plaster on metal lath. (See Figs. 3 and 4.)

"(f). Separate air cooling system ducts that are made of other than non-combustible material shall be installed with clearances to warm air ducts as required in pars. 143 (a), (b), and (c).

As revised, Standard 90B also prohibits the use of an evaporative cooler containing excelsior.

Alter Cooling Tower Standard 214

The Committee on Water-Cooling Towers proposed addition of the following paragraph to Section 12 of Standard 214:

"125: Open areas or space between the base of a cooling tower and the ground or the roof of a building upon which it is located should be effectively screened to prevent the accumulation of waste combustible material under the tower, or to prevent the use of such areas or space under the tower for the storage of combustible material."

Blower Standard 91

The Committee on Blower Systems presented for final adoption several revisions to the Standard (No. 91) for the Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying. Major features of the changes are:

1. To follow definitions of other standards with some editorial changes clarifying intent of certain sections.
2. A new section was added on duct clearances by adding a new paragraph 242 which refers to a table of clearances as described in Table I **(see page 14)**.
3. Paragraph 302, in the section on Systems for Removal of Flammable Vapors, was broadened by adding the sentence:

"Exhaust outlets to atmosphere should extend above or away from surrounding structures to prevent accumulation of combustible residues on such structures."

4. In the section on separating and collecting equipment, under Dust Collecting Systems; Stock and Refuse Conveying Systems, paragraph 443 was broadened to include reference to proper anchoring to resist wind pressures.

Details on some of the revisions made in Standard 91 follow.

In the section on ducts, under General Requirements, paragraph 236 was revised to read (revised part is in italics):

"236. The passing of ducts through fire walls should be avoided wherever possible (see definition of fire wall, Section 100). When ducts or the outlets from or inlets to them pass through fire walls, they should be provided with automatic closing fire doors on both sides of the wall through which they pass. (See Figs. 1 and 2.)

"Such fire doors shall be approved for the protection of openings in fire walls (Class A openings) except that for small open-

(Continued on Page 14, Col. 4)

air handling problems Station Climate Changers!

Superior versatility. Unmatched flexibility. Wider range of sizes. And, an advanced coil design, exclusive with Trane!

Here is the latest advance in central station air conditioners: TRANE Climate Changers, with exclusive engineering features, quality built throughout. These units are highly compact, have unequaled versatility; and there are over 100 standard units to enable you to meet the exact requirements of any job more accurately.

You can select TRANE Climate Changer units, step-by-step, to meet the most exacting job specifications. The result is a system of perfectly matched components to meet your specific air conditioning requirements. There are draw-through and Multi-Zone models—available in both medium and low-pressure types, in a widened range of capacities from 1,200 to 47,000 cfm.

Ratings for consistent and accurate performance of TRANE Climate Changers have been established after nearly 30,000 man hours of engineering, research and testing.

The Climate Changer fan assembly is electronically balanced before shipment to provide greater protection against vibration.

Next time you're planning a job calling for a central station unit, ask your nearby TRANE Sales Office for complete facts on the Climate Changer line. Or, if you prefer, write directly to TRANE, La Crosse, Wisconsin.

For any air condition, turn to

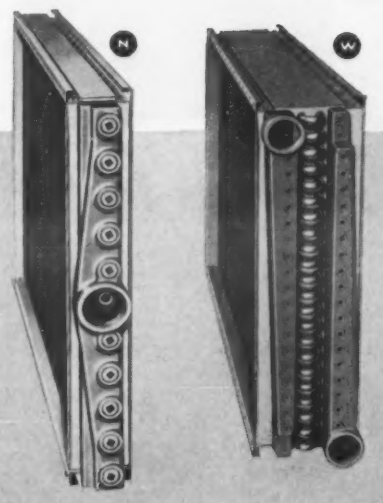
TRANE

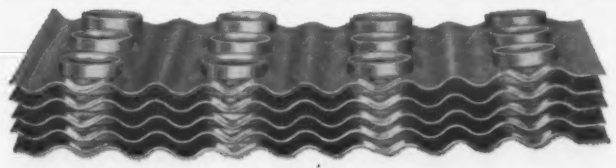
MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING, VENTILATING AND HEAT TRANSFER EQUIPMENT

THE TRANE COMPANY, LA CROSSE, WIS. • SCRANTON MFG. DIV., SCRANTON, PA. • CLARKSVILLE MFG. DIV., CLARKSVILLE, TENN. • TRANE COMPANY OF CANADA, LIMITED, TORONTO • 100 U. S. AND 19 CANADIAN OFFICES

Type N steam coil, non-freeze design, with one-inch O.D. tubes that provide uniform temperature distribution across coil face. Positive protection against freeze-up.

Type W all-purpose water cooling coil, from return end. Rugged cast-iron headers with hydrodynamic design provide most efficient flow distribution, assure uniform distribution to all tubes and minimum pressure drop.





New Sigma-Flo Fin features wavy design that improves heat transfer efficiency, results in more compact design. Fins, die-formed in multiple stages, provide accurate tube fits and fin bonding spacing.

NFPA Approval of L-Vent May Help Oil Heating In New Home Market

NEW YORK CITY—The National Oil Fuel Institute (NOFI) stated recently that through the activities carried out over two years by oil industry technical experts, spearheaded by present members of NOFI, the NFPA annual meeting at Detroit "widened standards for oil heating equipment, giving oil new opportunities for the new home market, as well as in remodeling and replacements."

"These new opportunities," the announcement said, "will result from the approval given by the National Fire Protection Association and the Underwriters Laboratories to permit use of the newly-developed low-cost Type L, low temperature vent, with the new type forced or induced draft oil home heating equipment. Approved in principal, written standards will now be worked up for listings.

"This means that the standard masonry chimney will no longer be necessary as far as underwriters are concerned with this type of oil equipment. Instead an L-vent will be sufficient. The L-vent is a double walled tube, usually averaging 4-in. in diameter which takes the place of a chimney. The new approved oil L-vent is similar to gas B-vent, except the inner lining will be superior."

This approval, NOFI said, increases the use and appeal of oil equipment of these types for new homes by cutting oil installation costs.

NOFI has notified its Manufacturer Div. members that Underwriters Laboratories is now accepting applications for test of oil burning equipment with the new vent.

It is planned to formulate a written standard after tests—run on equipment submitted to the Underwriters Laboratories by manufacturers working on the project—have set requirements, NOFI said, adding:

"The new Type-L Vent will be tested in conformity with the present procedures for Type B gas vents in addition to the special tests. The new oil L-Vent is also being considered favorably by the Codes Changes Committee of the Builders Conference of America."

Manufacturers interested may contact Herbert Witte, Underwriters Laboratories, Inc., Northbrook, Ill.; or Calvin D. MacCracken, Jet-Heet, Inc., Englewood, N. J., chairman of the Vent Committee, National Oil Fuel Institute.

TABLE I

Clearances, Inches, with Specified Forms of Protection*

Type of Protection Applied to the Combustible Material. Thicknesses are Minimum	Where the Required Clearance with No Protection is: 8 in.	12 in.	18 in.	24 in.
a) ¼-in. asbestos millboard spaced out 1 in.†	3	6	12	18
b) 28-gauge sheet metal on ¼-in. asbestos millboard	3	6	12	16
c) 28-gauge sheet metal spaced out 1 in.†	2	4	9	12
d) 28-gauge sheet metal on ⅛-in. asbestos millboard spaced out 1 in.†	2	4	9	12

*All clearances shall be measured from the surface of the duct to combustible material disregarding any intervening protection applied to the combustible material.

†Spacers shall be of noncombustible material."

* * *

NFPA Standard Revisions--

(Continued from Page 13, Col. 5)

ings not exceeding 18 in. in diameter, ⅜-in. steel plates may be used in lieu of fire doors, or fire dampers listed by a nationally recognized testing laboratory may be used in accordance with the conditions of their listing."

In the section on duct clearances, paragraph 241 now reads:

"All duct systems handling noncombustible materials and operating at approximately room temperature shall have a clearance of at least 6 in. from stored combustible materials, and not less than ½-in. clearance from the combustible construction even though flameproofed, fire-retardant treated or plastered, except as noted in paragraphs 242 and 427."

The new paragraph 242 reads:

"Duct systems handling combustibie material shall have a clearance of not less than 18 in. from combustible construction or any combustible material. The clearance to combustible construction may be reduced, provided the combustible construction is protected as described in Table I. If a duct system is equipped with adequate automatic sprinklers, clearance may be as provided in paragraph 241."

The paragraph previously numbered 242 was revised and numbered 243 and a new Table I added as follows:

"243. Duct systems operating at elevated temperatures (above 100°) shall have clearance from combustible building construction or any combustible material not less than shown in table below [this table was not changed but the following is new material]:

"Note—Where experience indicates that fires in duct systems are a fairly common occurrence or there is a likelihood that fires will occur, because of the very nature of the occupancy using such duct systems, a greater clearance may be required as is the case of NFPA No. 33, Spray Finishing Using Flammable Materials; and NFPA No. 96, Ventilation of Restaurant Cooking Equipment, where a clearance of 18 inches between ducts and unprotected combustible material is required.

"Ducts handling materials at temperatures in excess of 900° shall be lined with refractory material or the equivalent.

"The clearance to combustible construction for ducts handling materials not in excess of 900° may be reduced provided the combustible construction is protected as described in Table I.

In the section on Systems for Removal of Flammable Vapors, a new paragraph — 324 — was added. It reads:

"Material for duct lining should have a fire hazard classification of 0 when tested in accordance with the Method of Test of Surface Burning Characteristics of Building Materials, NFPA No. 255, UL 723 and ASTM E84."

Heating Proposal

The Committee on Chimneys and Heating Equipment proposed changes in two NFPA standards to permit the use of the Type L venting system in fuel-burning appliances which have been tested and listed as

(Continued on Page 17, Col. 1)

NEW DEVELOPMENTS FROM DU PONT:

Traveling assistants for burnout jobs

Here's a new, practical, more effective way to handle refrigeration system burnouts. Not just replacement, not just flushing . . . but *complete* pressure cleaning with Du Pont's new cleaning unit. This new unit utilizes Freon-11*, the most effective selective solvent available for oil, sludge and grease. By completely removing contaminants that can cause new burnouts, you can do the job right the first time . . . eliminate costly, time-consuming call-backs.

Mounted on wheels, this handy assistant is the latest Du Pont effort to make your servicing job easier and more effective. And when it's time to recharge the system, you'll find Du Pont's improved lightweight "Zephyr" cylinder makes the job easier.

Take a "Zephyr" on your next burnout . . . or any other job. You can't go wrong.

Leading air conditioning and refrigeration wholesalers who sell "Freon" refrigerants can probably rent you one of the new Du Pont units now. But if you'd like to build your own, write to: Du Pont Co., N-2420AA, "Freon" Products Division, Wilmington 98, Delaware. Ask for Bulletin FD-1.

FREON® premium quality REFRIGERANTS

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

**FREON and F- followed by numerals are Du Pont's registered trademarks for its fluorocarbon refrigerants.*

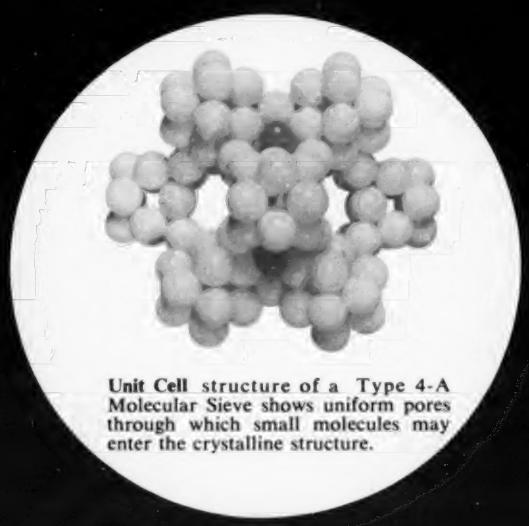
More efficient drying, filtering and acid removal with

DETROIT

molecular sieve filter driers

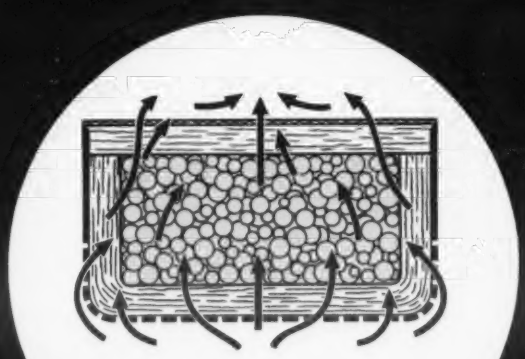
Detroit filter driers are available in many different types—are rugged, compact, highly efficient. They can be used with R-12, R-22 or R-500 and keep the refrigerant perfectly filtered while holding moisture and acid concentration within safe limits with a minimum of pressure drop. Molecular sieves remove and retain up to 20% of their weight in water at 140 F or higher, holding moisture concentrations in the refrigerant to 10 ppm or below.

Tests show that molecular sieves have three times the capacity of conventional desiccants when used under similar conditions.

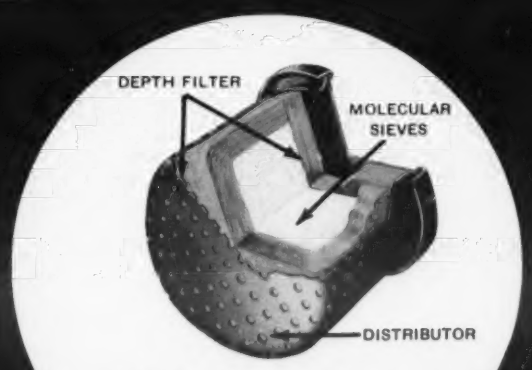


Unit Cell structure of a Type 4-A Molecular Sieve shows uniform pores through which small molecules may enter the crystalline structure.

An extra thick filter of fiber glass completely surrounds the molecular sieves. Particles as small as 10 microns are trapped in this filter.



A distributor directs the refrigerant flow through the filter and the large-diameter, short-travel desiccant bed.



Molecular sieve filter-driers do not absorb oil or refrigerant—reduce acid concentrations to well below dangerous corrosion limits.

Copyright 1961 by American Radiator & Standard Sanitary Corporation

DETROIT

molecular sieve filter driers

are available in a wide range of sizes in three types

sealed type

This type of Molecular Sieve Filter Drier is compact, yet has three times the capacity of other filter driers. It works equally well in hot machine compartments or refrigerated areas. Generous wrench flats are provided on flare-type filter driers. Sizes range from ¼" through ⅝" SAE flare and ¼" through 1⅝" O.D. sweat. They are U/L listed and have a minimum bursting pressure of 2500 psi.

Extended Sweat Connections

Standard Flare Type Connections

adapter type

For maximum installation convenience adapter type Molecular Filter Driers can be removed and replaced easily without disturbing line connections. The Detroit adapter fitting has a built-in moisture liquid indicator. It remains in the line permanently and the filter drier is simply screwed into the fitting. Line size ¼" SAE through ⅝" SAE and ⅜" through ⅝" O.D. U/L listed with a minimum bursting pressure of 2500 psi.

replaceable cartridge type

Detroit flanged shells have an "O" ring flange seal which provides a simple, positive means of achieving a leak-proof joint with a very nominal torque on the cap screws and with no flange distortion. The design is such that the "squeeze" on the "O" ring is limited. Thus, the flange may be removed and resealed many times without replacing the "O" rings. Available with mounting brackets for shell diameters of 3", 3½", 4". U/L listed with minimum bursting pressures of 2500 psi. Cartridges must be ordered separately.

DETROIT DRI-DOT

indicators give positive moisture liquid-control

With the Detroit Dri-Dot Moisture-Liquid Indicator one glance tells if the system is dry and fully charged. An extra large, optically clear magnifying sight glass is fused into the body providing a hermetic seal. The highly reflective interior reveals the tiniest bubble in the liquid. The sensitive element reacts quickly in the presence of moisture and indicates relative dryness of the refrigerant. A blue dot indicates "dry", pink says it's "wet", pale blue or light pink indicates "caution." The indicator is equally sensitive to R-12 and R-22. Maximum working pressure is 500 psi; bursting pressure, 2500 psi minimum. Detroit Dri-Dot Moisture-Liquid indicators are available for ¼" through ⅝" SAE and ¼" through 2⅛" O.D. line sizes.

AMERICAN-Standard
CONTROLS DIVISION

NFPA--

(Continued from Page 14, Col. 5)
suitable for such use. These were approved.

In the Proposed Standard for the Protection of Electronic Computer Systems, a paragraph, in the section on protection of computer rooms and equipment states:

"The air space below a raised floor or above a suspended ceiling may be used as a plenum chamber for air conditioning if construction in non-combustible and all wiring is of an approved type."

Cooling Computers

Air conditioning is also mentioned in parts of this section pertaining to protection requirements for equipment.

In the section on utilities are seven paragraphs relating to air conditioning systems:

"7100. Air Conditioning Systems

"7101. Air conditioning equipment shall conform to the requirements of NFPA Standard for Air Conditioning and Ventilating Systems, No. 90A, and to the additional requirements set forth below.

"7102. A separate air conditioning system should be provided for the computer area.

"7103. If the computer area is within an area which is air conditioned and additional air conditioning capacity is not required, the ducts serving the computer area should have suitable fire dampers, as outlined in NFPA Standard No. 90A.

"7104. All duct insulation and linings shall be non-combustible, including vapor barriers and coatings.

"7105. Air filters for use in air conditioning systems shall be of approved types that will not burn freely or emit a large volume of smoke or other objectionable products of combustion when attacked by flames and shall be so arranged that they can be readily inspected, cleaned, and/or replaced when necessary.

"7106. Air ducts serving other areas should not pass through the electronic equipment area. When it is impractical to reroute such ducts, they shall be encased in a fire-resistive duct, equivalent to the fire resistance of the enclosure for the electronic equipment area.

"7107. Air ducts shall not pass through any computer records storage vault or room."

There are also references to air conditioning in the part of the same section on emergency power controls and in the section on fire emergency procedures.

Jess L. Moore Elected Coleman Vice President

WICHITA, Kan.—Directors of the Coleman Co., Inc., have elected Jess L. Moore a vice president of the company, it was announced by Sheldon Coleman, president and chairman of the board of directors.

J. L. Moore

Moore is general manager of the Heating & Air Conditioning Div. He will continue to supervise all engineering, production, and marketing operations of the division. Moore joined Coleman in 1947.

Enrollment Now 580

Glascool, Round Oak Join GAMA

NEW YORK CITY — Two manufacturing companies have been elected to membership in the Gas Appliance Manufacturers Association, according to Harold Massey, managing director.

Gascool Div. of Aero-Test Equipment Co., Inc., Dallas, Texas, and Round Oak Div. of Peerless Corp., Dowagiac, Mich., are the new GAMA members, bringing the trade group's enrollment to 580 manufacturing firms, Massey said.

Gascool Div., which manufactures gas engine driven air conditioning equipment, will be represented at GAMA by E. F. Bilger, products manager. President Gene C. Walker will serve as alternate.

Duane Williams, director of engineering (Indianapolis), will be delegate to GAMA for Round Oak Div., manufacturer of gas furnaces, and O. U. Mutz, vice president and sales manager (Indianapolis), will be the alternate representative.

Stewart-Warner Names James A. Reed

LEBANON, Ind. — James A. Reed has been named district sales manager of Stewart-Warner Corp.'s Heating & Air Conditioning Div., Walter Blake, national sales manager, has announced recently.

He will cover territories in Missouri, Arkansas, Oklahoma, and Kansas. For the past six years, Reed has been with the Siegler Corp.

From the Manufacturers

Service Bulletins

Experience indicates that when too much soldering flux is used in connecting refrigerant lines, it not only tends to stick in the expansion valve, but some of it gets through the expansion valve and can contribute to sticking compressor valves.

Another item that might contribute to improper operation of a system is the rust preventative used on service parts. To prevent rust from forming on parts, we use an oily material which should be removed by thoroughly washing in a degreasing solution before the part is installed on a compressor.

Probably neither of these items seems important at the time of installation, but many small items when added together can seriously affect the performance of a refrigeration system.

COPELAND REFRIGERATION CORP.

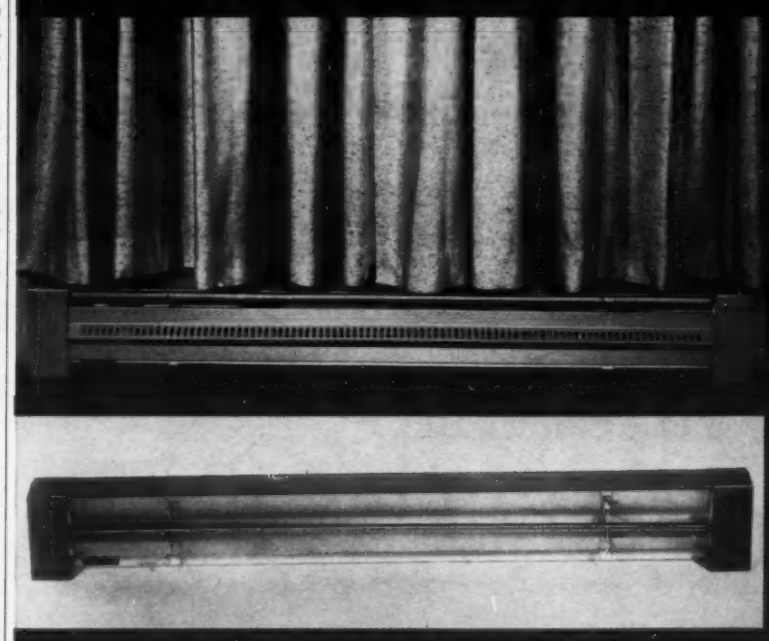
* * *

We are very much aware of the fact that the people who install and service our equipment in the field and work with it daily learn things about it that cannot be learned in developing the equipment in our laboratory and producing it in our plant.

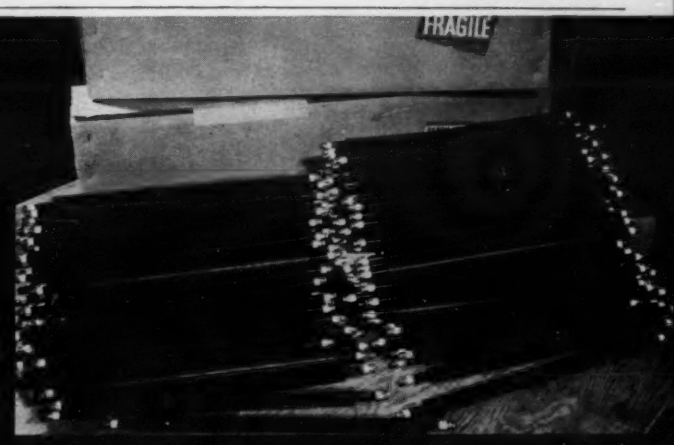
Suggestions and comments from the field are a most valuable source of information. It is our hope that this note will encourage dealer and distributor personnel to continue to give us constructive suggestions in regard to the design of Janitrol heating and cooling equipment.

JANITROL DIV.

"Maximum Efficiency —Minimum Space"



Wolverine Trufin Type H/A in TruHeat baseboard heating.



Anodized Trufin meets MIL specs for aircraft use.

Trufin used in Truheat's defrost heater.

Wolverine Trufin® Type H/A in The TruHeat Line

Yes, you get the maximum efficiency possible in a minimum space when you use Wolverine Trufin in your products. That's the experience of TruHeat Corporation engineers in Allegan, Michigan. Manufacturers of electrical heating equipment, TruHeat uses Trufin Type H/A (in aluminum) for baseboard heating, in defrost heaters for refrigeration units, and in aircraft heating units made to military specifications.

TruHeat engineers also point out that because Trufin is all one piece, there is no bond to loosen up in the expansion and contraction resulting from the continuous heating and cooling cycle changes. Trufin is unaffected by vibration or by sudden thermal shock, too. It is consistent in dimensions, thus eliminating rejects for under or over tolerance.

Finally, in TruHeat applications, Trufin meets MIL specifications for vibration tests, corrosive atmosphere tests and shock tests.

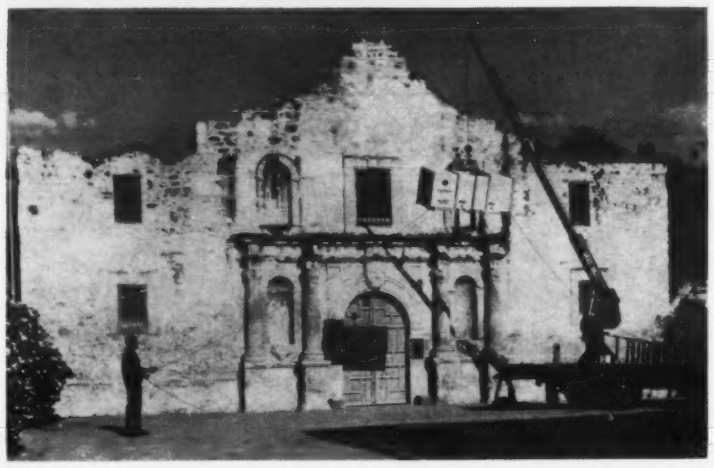
Type H/A is only one of the many types of Trufin made by Wolverine Tube, Division of Calumet & Hecla, Inc. There are successful applications for Trufin in many, many industries. Why not write for complete information today?

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. N, 17246 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper—Copper Alloys—Aluminum—Special Metals

9404

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.

Camouflaged Heat Pumps Lurk In War-Scarred Alamo



RISING to its perch atop the Alamo in San Antonio is one of the two roof-mounted 4-ton General Electric Weathertron heat pump outdoor sections. They are hidden from view behind the bullet-pocked wall.

SUPPLY DUCTS direct conditioned air from air handlers mounted in choir loft to main room of Alamo. Ducts are virtually invisible from floor level. Since photographed, special chemically-aged, hand-wrought iron grilles have been mounted over the choir loft openings.

Restore Original Look To Shrine

SAN ANTONIO — Artfully-camouflaged General Electric "Weathertrons" have been installed in the historic Alamo here and are reaping the Shrine of Texas Liberty a double dividend, according to G-E.

"The modern installation has made it possible to turn the clock backward at the Alamo," it was reported. "Eye-sore steam radiators and pipes and big, paddle-blade fans have been stripped from the interior walls of the centuries-old structure. The walls now are virtually uncluttered, much as they were back in 1836 during the Battle of the Alamo.

"A second dividend . . . and it's a big one to hundreds of thousands of history-loving tourists who annually visit the Alamo . . . is comfort. The Alamo's interior now remains at a comfortable temperature the year round, thanks to three G-E Weathertron heat pumps humming in concealed locations.

Engineering Problems

"The installation is one of the most unusual in the history of the air conditioning industry. Engineers planning it faced many problems:

"How to install the air conditioning apparatus so it would not add a jarring modern note to the Alamo's rough-hewn interior; how to comfortably heat and cool the high-ceiling building in Texas temperatures with a 100° span; how to furnish adequate capacity to cope with the many-feet-thick stone walls which soak up heat and could not be insulated.

"All met with signal success after the Daughters of the Republic of Texas, group in charge of preservation and maintenance of the Alamo, accepted a proposal to heat and cool the building with several Weathertrons in order to eliminate heat zones. Another company's proposal . . . to use single conventional air conditioning unit . . . was declined."

The Weathertrons were built at the Tyler, Texas plant of the General Electric Air Conditioning Department, only (by Texas standards) 300 miles from here. Installation was provided by the South Texas distributor, Campbell-Ince, Inc. under the supervision of Harvey P. Smith, Sr., official architect.

Careful Camouflage

"Careful consideration was given to camouflaging the equipment so that it did not detract from the beauty of the Shrine," Smith said.

For example, a pair of 4-ton Weathertrons were concealed on the Alamo's roof behind a parapet pocked in 1836 by Mexican musket balls. Immediately below the units, workmen opened a pair of musty choir lofts last used prior to 1793 when the Alamo, originally a church, was secularized.

The lofts' floors had 10 in. of choking dust on them, deposited over nearly two centuries. This was cleared and the supply out-

MODEL 237 CRANKCASE PRESSURE REGULATING VALVE

the best GOOD WILL insurance you can install...

the surest protection your customers can get

For low-cost overload protection that reflects *quality* in your workmanship and cuts costly "callbacks," make the Model 237 pressure-regulating valve a *must* in every commercial air conditioning system you install or service.

What'll *you* be doing when the first really hot day arrives? Draining your profits and patience on air conditioning "callbacks"?

Not if you're in the habit of installing AP Model 237 pressure-regulating valves.

There's no chance of motor overload, short-cycling or burnout due to high load conditions. Refrigerant flow is automatically modulated when compressor suction pressures exceed safe levels.

You install the 237 valve quickly in the low side between the evaporator and compressor. Only two simple connections are required. Adjustment? It's a one-hand, one-minute job.

The 237 valve mounts in any position, fits every system. Available in 1½ and 3 T. R-12 sizes—½" or ⅝" SAE flare or ⅝" to 1⅜" ODF; also long connections for silver soldering. For complete information, see your authorized CC wholesaler.

Creative controls for industry

CONTROLS COMPANY OF AMERICA

HEATING AND AIR CONDITIONING DIVISION

2460 N. 32nd St., Milwaukee 10, Wisconsin • Cooksville, Ontario • Zug, Switzerland

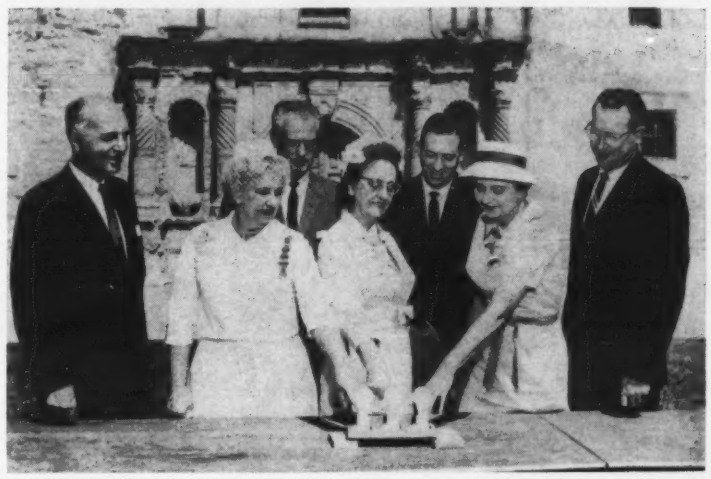
HAC-4-61

lets for the air handling units extended through the lofts and aimed at the main room of the Alamo.

To disguise the outlets, architect Smith had artisans duplicate heavy iron window grilles typical of 18th century Spanish churches. These were chemically "aged" and now grace the Alamo's walls.

Behind the Alamo, a 5-ton Weathertron has been installed in a small stockade made of rough-hewn cedar posts. This structure, topped by weathered thatch roof, might well have been in place during the days of Dave Crockett, James Bowie.

The Alamo attracted more than 300,000 visitors last year. "And we hope that air conditioning will increase our attendance in the years to come," said Mrs. H. Raymond Hagan, president of the Daughters of the Republic of Texas.



AT FORMAL "Turning-On" ceremony, switches starting heat pumps are thrown by (l. to r. center) Mr. H. Raymond Hagan, president of Daughters of Republic of Texas; Mrs. Edwin R. Simmang, chairwoman of DRT's Alamo committee; and Mrs. T. J. Schuessler, whose letter to the editor spurred the air conditioning. Looking on (l. to r.) are Edwin H. Howell, G-E regional vice president; C. B. Ramsdell, G-E Air Conditioning Dept. marketing manager; and James I. Campbell and Raymond Ince, San Antonio distributors for G-E.

Commercial Air Conditioning

Kern Joins Carrier Distributor In Florida

HIALEAH, Fla. — Manny Kern has joined Weathermatic Corp., exclusive Carrier distributor in South Florida.

He will be responsible for sales and the development of the full line dealer organization, as well as coordinating the activities of plan and specification, residential, and room air conditioner divisions.

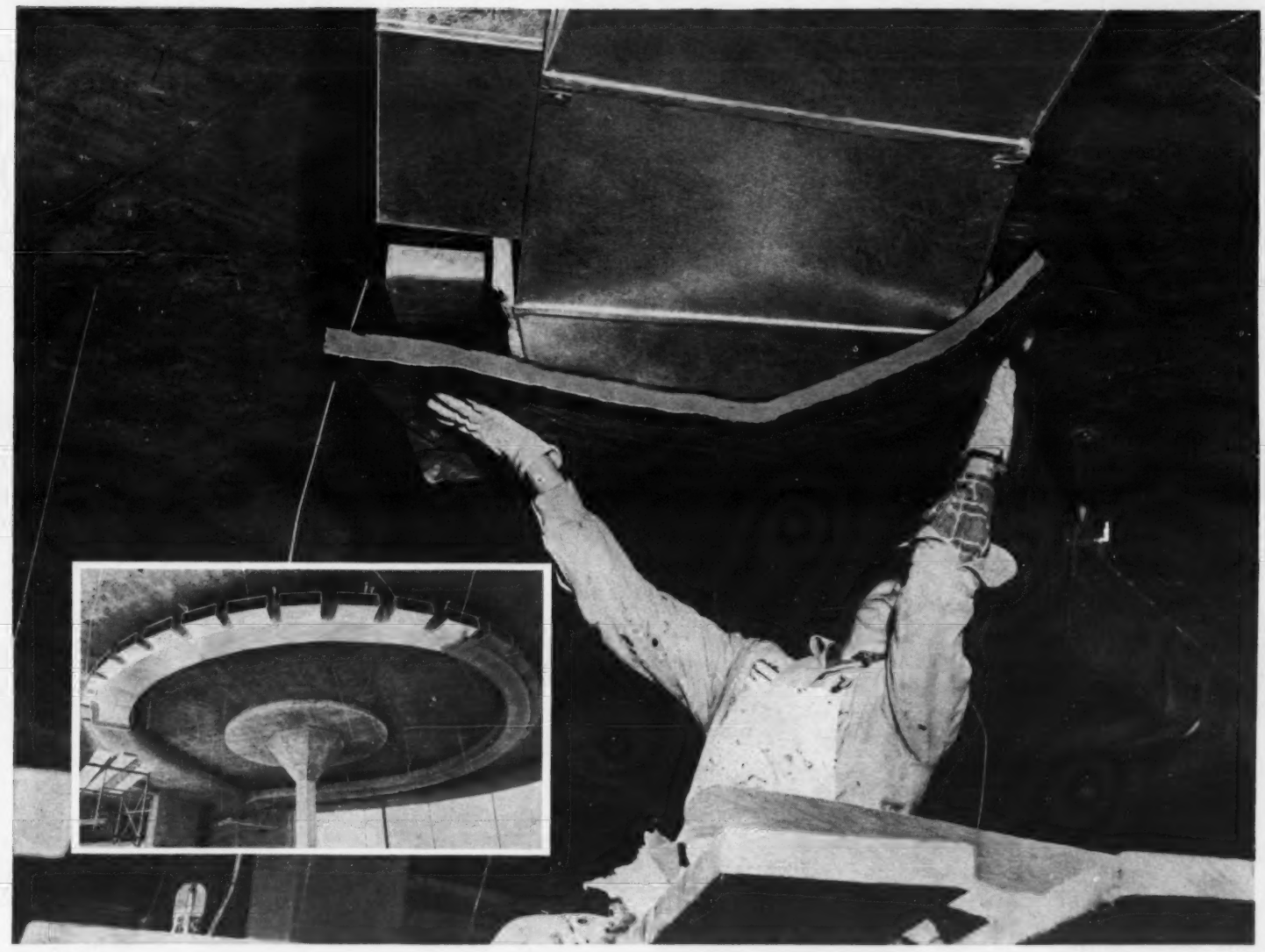
Kern was at one time active in the New York City area as sales manager for an independent distributor for General Electric commercial and industrial equipment. He has represented Typhoon on the Gold Coast and certain areas of the West Coast of Florida since 1958, it was pointed out in the announcement.

Tuck-Aire Assigns 2 Areas, Extends Third

SAN FRANCISCO—Addition of two new representatives and extension of the territory served by a third, have been announced by Robert C. Boehm, general sales manager, Tuck-Aire Furnace Co.

C. P. Houston Co., Lubbock, has been named new representative serving the Texas Panhandle territory. Ribar Johnson Co., Minneapolis, has been named new representative covering the North Dakota and Minnesota territory.

Homer L. Moore, Decatur, Ga., who formerly covered the Georgia and South Carolina territory, will now also serve as the company's representative in Alabama and northern Florida, according to the announcement.



Wrap up tough duct insulating jobs fast with ULTRALITE®

FOR INFORMATION AND DELIVERY CALL YOUR LOCAL ULTRALITE DISTRIBUTOR (LISTED IN ADJOINING COLUMN)

Unusually shaped duct systems, such as the one recently installed in the showroom of the Jerry Green Car Agency, Kansas City, Mo., are faster, easier, and more economical to insulate with ULTRALITE. Made exclusively of long, strong textile-type glass fibers, ULTRALITE is extremely lightweight and flexible, making it easy to wrap around oddly-shaped duct systems. What's more, its high resilience keeps ULTRALITE from compressing and losing its maximum thermal efficiency at the corners of the duct. Ease of handling makes ULTRALITE particularly desirable where working conditions are cramped or otherwise confining.

For high thermal efficiency, low installed costs and permanence, your best insulation buy is ULTRALITE. Write today for complete information.

GUSTIN-BACON Manufacturing Co.
218 W. 10th St., Kansas City, Mo.

Thermal and acoustical glass fiber insulations . . . Molded glass fiber pipe insulation
Couplings and fittings for plain and grooved end pipe

G-B BLANKET INSULATION DISTRIBUTORS

AKRON, Ohio, The Asbestos Supply Co.
ALBANY, Ga., Industry Insulation Co.
ALBANY, N. Y., Hudson Valley Asbestos Corp.
ALBUQUERQUE, N. M., Mt. States Insulation Co.
AMARILLO, Tex., McDonald Engineering & Insulating Co.
Morrison Supply Co.
ANDERSON, S. C., Building Material & Equipment Co.
ATLANTA, Ga., Reynolds Aluminum Supply Co.
Parker-Rice Insulation
AUSTIN, Tex., Cinbar Engineering Co.
BALTIMORE, Md., Leroy Insulation Co.
BANGOR, Me., Eastern Glass Co.
BATON ROUGE, La., Eagle Asbestos & Packing Co.
BEAUMONT, Tex., Coburn Supply Co., Inc.; Solar Supply Co.
BILLINGS, Mont., Big Horn Supply, Inc.
BIRMINGHAM, Ala., Reynolds Aluminum Supply Co.
Shook & Fletcher Supply Co.
BORGER, Tex., Western Chemical & Supply Co.
BOSTON, Mass., Homans-Kohler, Inc.
BRIDGEPORT, Conn., Robert A. Keasbey Co., Inc.
BRUNSWICK, Ga., Baker Bros., Inc.
BUFFALO, N. Y., Industrial Insulation Sales, Inc.
BURLINGTON, Vt., Pipe Insulators, Inc.
CHAMPAIGN, Ill., The Lewie-David Co.
CHARLESTON, S. C., Baker Bros., Inc.
CHARLESTON, W. Va., Asbestos & Insulating Co.
CHARLOTTE, N. C., D & B Insulation Co.
CHICAGO, Ill., E. C. Carlson Co.; Culberg Asb. & Cork Co.
CHRISTOPHER, Ill., Hoe Supply Co.
CINCINNATI, Ohio, R. E. Kramig Co.
CLEVELAND, Ohio, Ohio Asbestos & Insulation Co.
COLUMBUS, Ohio, Santeler Brothers
Culberg of Ohio
CORPUS CHRISTI, Tex., Precision Insulation Co.
DALLAS, Tex., Acme Insul. & Sup. Co.; Payne Ladewig, Inc.
Electrical Supply Co.
DAVENPORT, Iowa, Republic Electric Co.
DAYTONA BEACH, Fla., B & F Insulation Co.
DECATUR, Ill., The Lewie-David Co.
DENVER, Colo., Plateau Sup. Co.
DES MOINES, Iowa, Iowa Asbestos Company, Inc.
DETROIT, Mich., The Walter Rankin Co.
EL PASO, Tex., Insulation & Specialties, Inc.
M & M Refrigeration & Supply Co.
ERIE, Pa., Laco-McMullen Co.
EVANSVILLE, Ind., Geo. Koch Sons., Inc.
FALCONER, N. Y., Laco Roofing
FT. SMITH, Ark., Ball Distributing & Engineering Co.
FT. WAYNE, Ind., M. H. Hilt, Inc.
FT. WORTH, Tex., Bracken Co.
GAINESVILLE, Fla., Baker Bros., Inc.
GRAND RAPIDS, Mich., M. S. Knea Co.
GREENSBORO, N. C., Starr Davis Co., Inc.
GULFPORT, Miss., Paine Supply Co.
HONOLULU, Hawaii, Parker Fallis Insulation Co., Inc.
HOUSTON, Tex., Precision Insulation Co.
INDIANAPOLIS, Ind., Lyon Lumber & Supply Co.
IRON MOUNTAIN, Mich., Champion, Inc.
JACKSON, Miss., Paine Refrigeration Supply Co.
JACKSONVILLE, Fla., Baker Bros., Inc.; Eckles Dist., Inc.
Forber Sheet Metal Works; Reynolds Alum. Sup. Co.
JOPLIN, Mo., Joplin Cement Co.
KANSAS CITY, Mo., Central Sup. Co.; Kelly Asbestos Prod.
Insulation & Acoustical Specialties Co., Inc.
KEWANEE, Ill., Mechanical Insulation Co., Inc.
KINGSPORT, Tenn., Willis Supply Co.
KNOXVILLE, Tenn., Willis Supply Co.
LAKE CHARLES, La., Coburn Sup. Co., Inc.; Solar Sup. Co.
LOS ANGELES, Calif., Accurate Insulation Co., Inc.
Western Fibrous Glass Products Co.
LOUISVILLE, Ky., General Insulation & Roofing Co.
LUBBOCK, Tex., Mechanical Equip. Co.; Morrison Sup. Co.
MACON, Ga., Industry Insulation Co.
MARIETTA, Ohio, Asbestos & Insulating Co.
MEMPHIS, Tenn., J. A. Denie's Sons Co.; Gibbons Sup. Co.
MIAMI, Fla., Reynolds Aluminum Supply Co.
Southern Metal Products Co.
MILWAUKEE, Wisc., F. R. Dengel Co.
MINNEAPOLIS, Minn., Asbestos Products, Inc.
MOBILE, Ala., Shook & Fletcher Insulation Co.
MONTGOMERY, Ala., Shook & Fletcher Supply Co.
MOORHEAD, Minn., Fargo-Moorhead Insulation Co.
NASHVILLE, Tenn., Reynolds Aluminum Supply Co.
NEWARK, N. J., Eastern Steam Specialty Co.
Robert A. Keasbey Co., Inc.
NEW ORLEANS, La., Eagle Asbestos & Packing Co.
NEW YORK, N. Y., Eastern Steam Specialty Co.
Robert A. Keasbey Co., Inc.
ODESSA, Tex., Western Chemical & Supply Co.
OKLA. CITY, Okla., Ball Distributing & Engineering Co.
OMAHA, Nebr., Cardinal Supply & Mfg. Co.
ORANGE, Conn., Insulation Supply Co.
ORLANDO, Fla., Baker Bros., Inc.
PADUCAH, Ky., Triangle Insulation Co.
PHILADELPHIA, Pa., John F. Scanlan, Inc.
PHOENIX, Ariz., Williams Insulation Co.
PITTSBURGH, Pa., Dravo Corp., Keystone Div.
PORT ARTHUR, Tex., Coburn Supply Co.
PORTLAND, Me., Eastern Glass Co.
PORTLAND, Ore., Western Fibrous Glass Products Co.
RALEIGH, N. C., Reynolds Aluminum Supply Co.
RAPID CITY, S. D., Robbins & Stearns Wholesale
RICHMOND, Va., Reynolds Aluminum Supply Co.
ROANOKE, Va., C. E. Thurston Co.
ROCHESTER, N. Y., J. F. Burnett, Jr., Inc.
ROCKFORD, Ill., Mott Brothers Co.
SACRAMENTO, Calif., The Brookman Co.
SALT LAKE CITY, Utah, Bullough Asbestos Sup. Co.
SAN ANTONIO, Tex., San Antonio Machine & Supply Co.
SAN DIEGO, Calif., Western Fibrous Glass Products Co.
SAN FRANCISCO, Calif., Western Fibrous Glass Prod. Co.
The Brookman Co.
SAVANNAH, Ga., Baker Bros., Inc.; Reynolds Alum. Sup. Co.
SEATTLE, Wash., The Brower Co.,
Western Fibrous Glass Prod. Co.
SHREVEPORT, La., Frith Sales Co.
SOMERVILLE, Mass., Insulation Products, Inc.
ST. LOUIS, Mo., Refrigeration Supplies, Inc.
The Stovey Company, Inc.
ST. PAUL, Minn., Asbestos Products, Inc.
SYRACUSE, N. Y., Burnett Process, Inc.
TALLAHASSEE, Fla., Baker Bros., Inc.
TAMPA, Fla., Eagle Roofing & Art Metal Works, Inc.
TULSA, Okla., Ball Distributing & Engr. Co.
TUPELO, Miss., Paine Supply Co.
VALDOSTA, Ga., Baker Bros., Inc.
WASHINGTON, D. C., Walter E. Campbell Co., Inc.
WAYCROSS, Ga., Baker Bros., Inc.
WEST PALM BEACH, Fla., Southern Metal Prod.
WICHITA, Kans., Wichita Sheet Metal, Inc.
4-28-61

Inside Dope

By GEORGE F. TAUBENECK

(Continued from Page 1)

He is well-financed, well-heeled personally, and highly educated. He speaks and writes concise English (the commercial language of the world) and he is quite sophisticated.

His chief complaint is his lack of contact with American suppliers. That's why the NEWS is immensely important to him. From it he learns *first* about new models, new products, merchandising ideas, and service tips.

As a typical example, we give you Hong Kong's biggest distributor of package air conditioning units. He sells 2,500 to 3,000 units annually — which makes him a big distributor anywhere.

Yet, nobody from the U.S.A. home office ever has called on him.

He learned about the firm he represents from the NEWS. He orders new models from its advertisements in the NEWS — which reach him long before the manufacturer's promotion literature or correspondence does.

In short, ACHRN is his link with security, and his key to profitability.

(Manufacturers of allied products, please note: This fellow has counterparts all over the world).

Final observation about our overseas brethren: Most of them believe that World War III—if it comes, will ally the U.S.A., Europe, *and Russia* against the Chinese hordes—who might find allies in Africa.

Herr Doktor Peter, We Love You

Readers of "Dope" may recall that, from time to time, we have reported the interesting inventions of good friend Dr. Peter Schlumbohm, the premiere *bon vivant* of New York City.

Now comes Dr. Schlumbohm with still another ingeniosity: an evaporative room cooler which, he says, does not increase humidity.

His latest development is a modification of the revolutionary Schlumbohm fan which, as previously noted in this column, filters air by drawing it through revolving paper disks, and then throws it off the disk edges.

According to patent 2,973,829, which inventor-manufacturer Schlumbohm has obtained for his new model, a pair of disks revolve face to face. Exhaustion of the air between them sucks in water from a container. Plastic filters are used instead of paper.

Previously, evaporative air coolers have been effective only in dry climates, and their effect has been limited. Dr. Schlumbohm claims that, by causing evaporation in a partial vacuum, he has been able to achieve a reduction of 16° in any area.

Our grand-living friend plans to test his evaporator fan further this summer. He may market that device next year through his Chemex Corp. and the NEWS.

Dr. Schlumbohm foresees this novel cooler as a device which can narrow the gap between compression air conditioners and ventilating fans.

"The patent," he adds, "is only a step in my 30 years of refrigeration research, a luxury which is financed by peddling the Chemex coffeemaker."

Dr. Schlumbohm's use of the word "peddling" may be somewhat misleading to readers, inasmuch as his Chemex and other glamor products are distributed nationally by America's top luxury-line retailers. He isn't hurting for the green stuff.

Sane College Boy

By chance, "Dope" witnessed a pro-Castro college student rally in San Francisco.

It had everything: beards, beatnik girls carrying bedraggled babies, placards reading UNCLE SAM KEEP YOUR FILTHY PAWS OFF OF CUBA, CASTRO SI KENNEDY NON, impassioned orators, and hecklers.

One of the latter made it all worthwhile for us.

At the conclusion of the oratory, the rally leader seized a microphone and issued instructions for a march on City Hall. When he had concluded, a college-type heckler bellowed:

"Fall in, Comrades."

Stories of the Week

Promotion man for Coty perfumes, home base Paris, travels the world.

Lady buyers for department stores, etc., constitute his customers. He has them all listed, with addresses and telephone numbers, in a leather-bound book which comprises thousands of names from New York to Singapore to London.

Inadvertently he left this valuable book on a plane, where it was retrieved by a stewardess.

She mailed it to him in Honolulu, his next stop, with a one-word comment:

"Wow!"

Couldn't help overhearing this gossip between two high school girls on a bus.

"Guess who Cary Oshins was out with last night."

"Who?"

"Sue Klinesmith."

"Oh, no. I'll have to send the poor guy a Get Well Card."

Out of Our Mailbag

Binghamton, N. Y.

Editor:

I was very interested to read in the May 8 issue, just received, the lead item in "Dope" entitled "Memo to Krushchev."

I should like to inquire if it would be permissible for you or me to reproduce copies of this article for distribution to whereever we think they will do the most good.

We have a university here that, like most universities, seems to have some very liberal, to say the least, teachers—and an organization has been formed among the students, which has invited known Communist speakers as well as left-leaners, to address the student body.

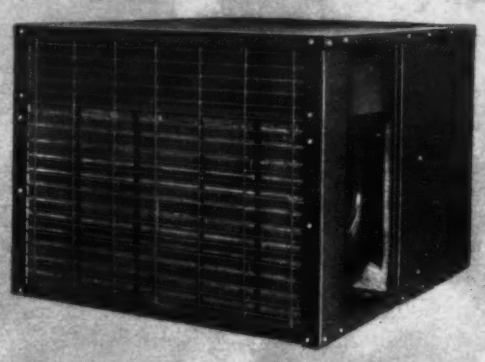
I believe that if the Free World is to remain free, the youth of this nation should be exposed to such down-to-earth reasoning.

W. H. BRAYMAN

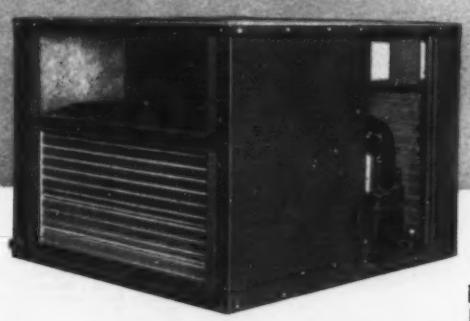
NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

NEW MONCRIEF

Condenser intake and discharge through same grille at same end of unit



A New Idea in Packaged Units



Evaporator intake and discharge from same end with standard duct sizes

101 APPLICATIONS

2 NEW SELF-CONTAINED AIR COOLED UNITS FOR LOWEST INSTALLED COST

PEAK PERFORMANCE — 23,000 and 35,000 Btu Net Capacities

INDOOR OR OUTDOOR INSTALLATION — listed by U. L. for location flush-to-wall indoors, or outdoors without shelter

QUIET OPERATION—2 separate Centrifugal Blowers for Evaporator and Condenser Coils, each with its own Motor

FLEXIBLE CONTROL — with Optional Panels and Thermostats for combination Heating-Cooling, or Cooling alone, and for Independent or Simultaneous operation of Evaporator Blower with Compressor

OPERATION WITH FURNACE — available without Evaporator Blower where Furnace Blower can be used to circulate air

Pick 101 or any number you choose. The versatility of the new Moncrief Air Cooled Self-Contained Summer Air Conditioner is limited only by the ingenuity of the installer.

Install it completely indoors, completely outdoors or through the wall . . . in an attic space, a "crawl" space, a basement or on a rooftop . . . to provide only cooling or in combination with a furnace. The possibilities are unlimited.

Wherever . . . however it is installed, engineering excellence backed by more than 65 years of manufacturing experience makes the new Moncrief Packaged Unit easier and less costly to install, because of its astute design and substantial construction.

And, like the complete Moncrief line, you'll find that this new Air Conditioner is also priced right.

Call your Moncrief Wholesaler about Moncrief Air Conditioning, now.

2, 3, 4, 5 TON AIR COOLED SPLIT-SYSTEM UNITS • WATER COOLED UNITS • YEAR 'ROUND UNITS • GAS • OIL • ELECTRIC FURNACES WITH EXTRA BLOWER CAPACITY STANDARD

MONCRIEF

THE HENRY FURNACE COMPANY • MEDINA, OHIO

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

PROVED IN THE LAB . . . AND IN THE FIELD. Our testing laboratory leaves nothing undone to assure the dependability of Bendix-Westinghouse compressors and condensing units. Each unit also gets five separate tests while on the production line. Finally, our products are demonstrating their worth every day in the field—the toughest proving ground of all. See other side for details on a new, anti-corrosion process used to protect Bendix-Westinghouse compressors.

Bendix-Westinghouse **MOTOR COMPRESSORS**

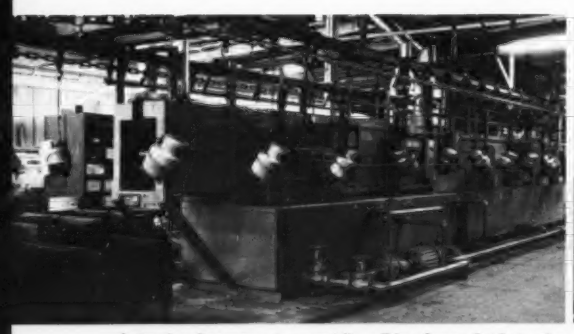
CORROSION RESISTANCE MORE THAN SKIN-DEEP IN BENDIX-WESTINGHOUSE COMPRESSORS

To protect our compressors completely against corrosion, we put them through a cleaning process that illustrates another way Bendix-Westinghouse gives *extra value*.

No less than six preliminary cleaning and metal treating steps on each compressor housing provide a built-in corrosion barrier that's far more than "skin-deep." Following this careful preparation, each unit is spray-painted and then baked at 290°F. for 45 minutes. Result: the finest motor compressor finish in the business.

It's a finish that easily passes our 500-hour, 100% humidity test at 100°F. ambient. So you can be sure it's a finish that will protect performance *wherever* your air conditioners are installed.

Our complete compressor line has "extra value" models ranging from 6,100 to 48,000 BTU's. Learn about their many advantages. Write or call direct.



As the first step in providing "the finest finish in the industry," a six-stage conveyorized unit puts protective, anti-corrosion base on compressors prior to painting.

In 45 minutes at 290°F., this 97-foot-long oven bakes the enamel finish of Bendix-Westinghouse compressors to a hard luster that's chip-proof and rust-proof.

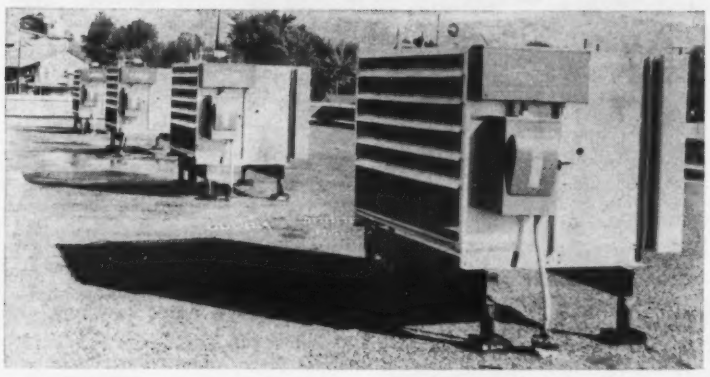
Bendix-Westinghouse

EVANSVILLE, INDIANA

A Division of Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio

Export Sales: Bendix International, 205 E. 42nd St., New York 17, N. Y.; Peter A. Karl, Inc., Union Station Bldg., Utica 2, N. Y.; Sabal-Kielmann, Inc., 15 William St., New York 5, N. Y.

Rooftop 'Winterstats' Save Valuable Space for Food Chain's Warehouse



IN LINE PLACEMENT of four Kramer condensing units on rooftop of produce cooler in Liberty Cash Grocers Co.'s warehouse is shown above.

MEMPHIS—A recent installation of four "Winterstat" outdoor air-cooled condensing systems reported by Eddy J. Miller, Kramer Trenton sales representative for the Memphis area, illustrates how modern roof placement can save valuable building space for storage or other productive use, according to Kramer Trenton Co.

Liberty Cash Grocers Co.'s new Memphis warehouse serves a large chain of stores in the Memphis area. Kramer refrigeration systems were selected for the warehouse's 77,265-cu ft produce cooler.

"Rooftop placement eliminated the need for a compressor room which would have raised building costs and consumed valuable storage space within the building," it was stated. "The entire refrigeration load is handled by four 10-hp Kramer outdoor condensing units on the roof of the building."

Designed for year-round operation under any climatic condition, Kramer systems "are factory assembled, instrumented, tested and run-in, reducing installation cost still further," the manufacturer noted. "Light in weight, they require no heavy structural supports, can be located directly above the areas being served thus reducing refrigerant line runs to a minimum."

Refrigeration installing contractor was M. F. Early, Commercial Refrigeration Co., Memphis. Kramer systems were supplied through Budlock Refrigeration Supply of Memphis.

Recold Equipment Will Serve 'Satellite' Airport In Los Angeles

LOS ANGELES — Refrigeration installation at Los Angeles' multi-million dollar "satellite" airport for commercial aircraft has been assigned to Vernon Refrigeration Co. of Los Angeles.

Forrest Hershey of Vernon Refrigeration said 23 Recold Corp. cooling coils and seven Recold DFW closed circuit evaporative systems are planned so far.

All buildings now under construction will be serviced by Recold equipment, Hershey said.

Design of the giant Los Angeles airport calls for a central building connected to smaller satellite buildings. This central building, called the "Theme Building," will house a large commissary and restaurant. The smaller buildings, which will be occupied by various airline facilities, will contain individual restaurants and cocktail lounges.

Hershey said Recold refrigeration equipment would service the food preservation of all restaurants as well as the main commissary. Special prefabricated cooling boxes have been engineered for the job.

Carl Hansen of Fred Schmidt Associates designed the refrigeration systems. Thermal Products, Inc. is the Recold representative.

Target date for completion of the first phase of construction which includes the main structure and six satellite buildings, is set for mid-October.

Blissfield To Produce 'Booth' Dispensers

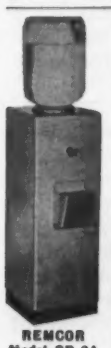
DALLAS — Jack J. Booth, president of Specialty Engineering Corp., announced here completion of arrangements with Blissfield Mfg. Co., Blissfield, Mich., to produce "Booth" multi-flavor post-mix counter dispensers.

Booth said increased demand by the bottling industry for these refrigerated 3 and 4-flavor drink dispensers prompted this move for additional production capacity.

Specialty Engineering is a manufacturer of both post-mix and pre-mix counter and fountain dispensers, venders, and dispensing valves; and patent holder of the "Condectic Tank" used in Booth pre-mix units.

Friedrich Names Hilton

SAN ANTONIO — Friedrich Refrigerators, Inc., a subsidiary of Ling-Temco Electronics, Inc., has named C. Dwight Hilton assistant sales manager of the Commercial Refrigeration Div. He was formerly southwest regional manager.



REMCOR Model CB-2A

WATER COOLER
5 Gallon Bottle Type
$89.50*
*TO DEALERS ONLY
. . . economical . . . efficient . . . streamlined . . . space-saving . . . ½ H.P. Tecumseh hermetic unit . . . five year warranty on refrigeration cycle. . . .
Remcor Products Co.
321 E. Grand Avenue,
Chicago 11, Illinois
manufacturers of water coolers since 1940
also available:
10 Gallon Pressure Type Cooler
*$159.50

service... quality and experience in

REFRIGERANTS *you can count on!*

TRONA*

TRONA distributes Pennsalt's **ISOTRON**†
Refrigerants in bulk cylinders and disposable Charg-A-Can® containers

ISOTRON-11
ISOTRON-12
ISOTRON-13
ISOTRON-22
ISOTRON-113
ISOTRON-114

Also TRONA METHYL CHLORIDE & SULFUR DIOXIDE

How do *you* measure the value of a supplier?... efficient service to the trade... uniform quality... years of experience in supplying the product? Refrigeration wholesalers we do business with say by any standard the answer is contained in the name TRONA—for more than two decades the source of *dependable* refrigerant products and service. Why does Trona serve you better? You get factory-controlled quality, on-time delivery from key distribution points, and a coast-to-coast organization of trained field representatives who know the wholesaler's marketing needs.

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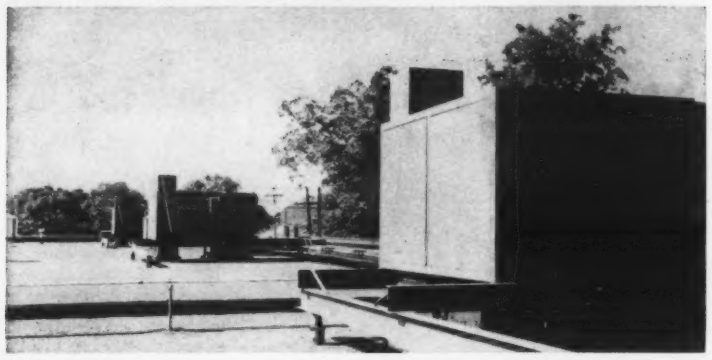
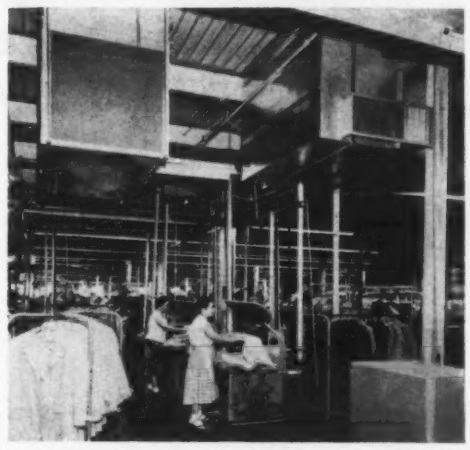
*TRADEMARK AP&CC †ISOTRON IS PENNSALT'S TRADEMARK FOR ITS FLUORINATED HYDROCARBONS.



ROOF-TOP installation of Halstead & Mitchell Co. central system air conditioners at Indiana, Pa. plant of Indiana Sportswear Co. The heavy-gauge sheet steel cabinets are fully weather-protected and corrosion-resistant, and are internally insulated with glass fiber insulation.



FINISHED men's wear being pressed before shipping by Indiana Sportswear. Conditioned air is distributed by side register diffusers (upper right). Return air is taken through a special return air plenum (upper left) fitted with removable 32-mesh plastic lint trap which is vacuumed twice daily.

Sportswear--

(Continued from Page 1)

Sportswear Co., Cleveland, employs 250 women and 50 men engaged in the production of mens' and boys' outerwear. Cold weather garments are made during the summer, in time for seasonal sale in the fall and winter.

"Exacting tailoring work on cold weather clothing using new highly efficient insulating materials previously raised employe discomfort in the summertime to a high level," Lerner said.

"Temperature in the plant reached the high 90's, accompanied by high humidity in the steam pressing department where clothing is readied for packing."

A forced fan exhaust system not only proved to be unsatisfactory but also induced drafts which increased employe discomfort in some plant areas.

The problem was referred to the Joe F. Sobieski Co., Johnstown, Pa., mechanical contractor. After surveying the plant and noting the criticality of floor space, Sobieski recommended Halstead & Mitchell model HAH central system air conditioners for the plant.

"Their advantage is that they may be used as roof-mounted central station plants, and no inside floor space is occupied by any of the air conditioning system's components other than the compressor station," Sobieski said.

"In this installation, the units are mounted on I-beams supported from the building structure, with none of the weight load placed on the roof deck."

The model HAH cabinets are constructed of heavy-gauge sheet steel, coated with "Vinsynite," vinyl zinc, and chlorinated rubber for full protection against corrosion.

In addition, the cabinets are internally insulated with glass fiber insulation at the plant, with no further insulation necessary on the part of the contractor, H&M pointed out.

Four model HAH air conditioners with a total nominal tonnage of 240 tons and a combined air handling capacity of 71,200 cfm are used.

Each is equipped with outside air and return air dampers, twin H&M belt-driven blowers, and 6-row direct expansion cooling coils split 2-rows and 4-rows in depth. Each coil section is equipped with its own solenoid valve and expansion valve.

The 120-ton compressors and their natural gas engines are installed in a special ground floor compressor room and two water cooling towers are mounted on the roof immediately above the compressor station. Suction lines are connected to the H&M units by velocity risers to prevent liquid slugs from returning to compressors.

Conditioned air is supplied to the plant by direct downflow from the discharge of the air handlers. The air is distributed by side register diffusers via ductwork mounted in the plant at ceiling height.

Return air to each unit is taken through a special ceiling-mounted return air plenum and lint trap, and up through the roof. The air enters a mixing box through dampers which are mechanically connected to outside-air dampers in the rear of the air conditioning units.

During the cooling season the control system varies the amount of entering outside air via a manual potentiometer control. When the system is placed on the ventilation cycle, the outside air is automatically controlled by a return air duct thermostat.

Since lint abounds in the plant, removable return air duct screens made of 32-mesh plastic are provided to trap the lint before it can enter the return air filters. These screens are vacuumed twice daily, and they also may be removed for more thorough cleaning.

"A unique feature of the compressor installation is use of automatic capacity controls which throttle the engine speed and unload the compressors to a minimum of 6% of total capacity during mild weather," Solieski said. "The units are also arranged for automatic cycling by thermostatic control in the return air ducts."

Tecumseh

engineering VISION

42 MILLION COMPRESSORS IN THE FIELD

now offers full coverage of the

COMMERCIAL MARKET

WITH 127 HERMETIC CONDENSING UNITS.

With the introduction of the new 2 and 3 H.P. low temperature hermetic units, the Tecumseh line is now complete for all normal commercial applications. Within the space of a few years time, this line has grown from only 9 units to today's blanket coverage.

Hermetic units now cover the range from 1/8 to 5 H.P. with variations for condenser cooling (air, water, and air-water), refrigerant, back pressure, torque and electrical characteristics. Every model has built-in sales features which are important to every user of refrigeration equipment.

This hermetic line is further backed up with 86 replacement compressors together with a full range of conventional equipment. Now you can sell matching Tecumseh equipment for all commercial applications. Investigate the outstanding advantages of going Tecumseh all the way!

TECUMSEH

The Leader Serving Leaders in the Air Conditioning and Refrigeration Industries

TECUMSEH PRODUCTS COMPANY

MARION, OHIO TECUMSEH, MICHIGAN

FOREIGN OPERATIONS DIV: Tecumseh, Michigan

CANADA: Tecumseh Products of Canada, Limited, 185 Ashland Ave., London, Ontario.

Digitronics--

(Continued from Page 1)

Data-Phone for high speed transmission and receipt of data over the regular telephone network.

"The main reason we air conditioned our plant," declared Lester Krugman, vice president of marketing services, "was to provide comfort for our employes during warm weather.

Direct Relationship Between Employe Comfort and Output

"We feel there is a direct relationship between our employes' comfort and their output. Our past experiences indicate that with discomfort we suffer losses in productive time.

"In addition to production line personnel, we also have many engineers on our staff. Since these are relatively high cost-per-hour personnel, it is important that we achieve maximum productivity.

"Another factor involved is that we consider our shipping schedule an important part of our operation and discomfort may adversely affect these shipping schedules.

"Beyond this, some of our equipment is somewhat heat producing and, without air conditioning, would add to the discomfort of our employes."

100 Tons of Cooling

To do the job, Kool-Air Systems, Inc. of Valley Stream, N. Y., installed 100 tons of air conditioning divided between four water-cooled and two air-cooled packages.

J. S. Arnold, chief engineer of Kool-Air Systems, explained, "This type of system was selected because of zoning requirements and diversity of internal loading of the various areas. Packaged units serving separate areas offered the most flexibility with economy of installation."

Kool-Air installed a 20-ton water-cooled unit to serve the private and general office area; another 20-ton unit to serve the machine shop, process area, maintenance shop, and other miscellaneous areas; a 25-ton unit to serve the production and inspection areas; and a 15-ton unit to serve the engineering offices.

Two 10-ton air-cooled units serve the test room areas. Air-cooled units were selected to permit their operation during mild weather and intermediate seasons. These areas are all interior spaces and require cooling almost all year round.

All air conditioning equipment is Worthington.

The air-cooled air conditioners are ceiling suspended fan-coil units with air-cooled condensing units on the roof above. Havens Structural Steel cooling towers serving the water-cooled units are also on the roof.

Air is distributed by ductwork and diffused through either side wall registers or ceiling diffusers. Equipment is located adjacent to the area which it serves.

Kool-Air also installed an oil-fired hot water heating system to furnish hot water for perimeter radiation in office spaces, for heating and ventilating coils in the air conditioning units, and for miscellaneous unit heaters, Arnold said.

'Cool Coach Carnival Week'

Carrier Drive Aimed at Mobile Homes

SYRACUSE, N. Y.—June 10 through June 18 has been designated as "Cool Coach Carnival Week," when mobile home dealers throughout the country will offer a free Carrier "Roomette" air conditioner with each trailer sold.

Carrier Air Conditioning Co. supplied participating dealers with window streamers, banners, carnival flags, tent cards, ad mats, and other material.

In addition, trailer dealers who order at least two Roomettes will be listed in Carrier advertising promoting the event in the mobile home newspaper serving the dealer's area.

The Carrier Roomette is specially designed for mobile home use and is vented through the floor of the trailer. The unit has a cooling capacity of 9,700 Btu.

Red Head--

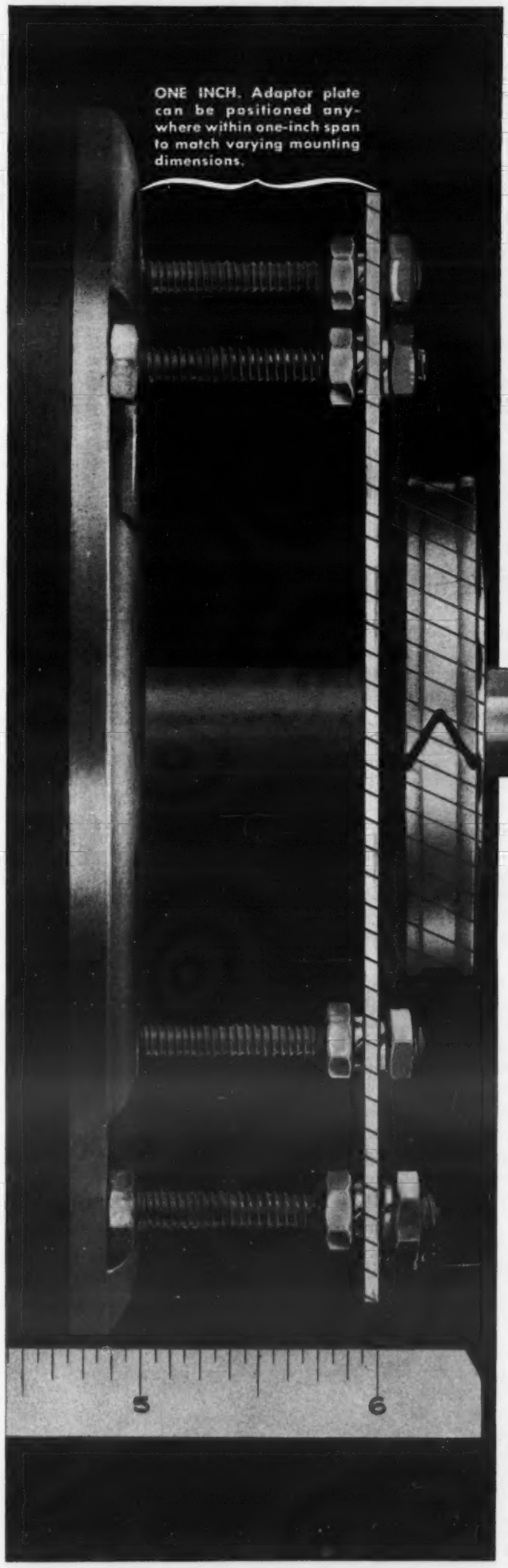
(Continued from Page 1)

pany are to prosper."

A little more than half the total area in the 166,400-sq ft plant designed by Cunningham-Limp Co., Detroit, will be air conditioned. Five large Carrier air conditioning units—four for the plant and one for the office—will operate independently to cool, heat, dehumidify, filter, and circulate 99,000 cfm.

Storage and shipping areas will be heated, but not cooled, since there will be no heat-generating operations in these areas. Comfort will be maintained by cooling coming from the production space.

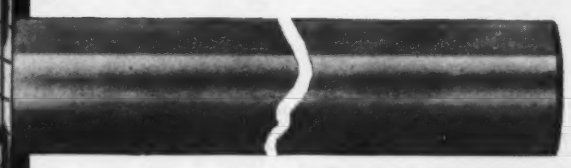
Hot and cold water used by the air conditioning units will be supplied by a hot water boiler and an electrically-operated water chiller. The Carrier refrigerating machine will produce cooling equal to the daily melting of 250 tons of ice, according to Carrier Air Conditioning Co. The air conditioning system will be installed by Ward Engineering Co. of Louisville.



New motor with adaptor rings, mounting adaptor

WITH THIS GENERAL ELECTRIC REPLACEMENT MOTOR . . .

YOU CAN VARY MOUNTING DIMENSIONS A FULL INCH



Stock this new General Electric fan motor—solve most air conditioner replacement problems

Stock this versatile motor—available in shaded-pole or permanent split-capacitor designs—and you can replace practically any 5½-inch diameter fan motor on today's room air conditioners. General Electric has led in the development of these "change-length" fan motors . . . and now gives you added flexibility in a motor with a full one-inch extension.

Today you're asked to replace motors of many different lengths. You can match most of these varying mounting dimensions by adjusting the position of the special mounting adaptor along the motor's extended thru-bolts. And, you can remove the adaptor entirely for band or thru-bolt mounting.

Special ring adaptors offer you further mounting versatility. You can snap them around the 2¼-inch cushion rings to meet 2½-inch ring requirements.

Extra-long shaft extensions, with extra-long "flats," are standard on this new motor. You can cut the shafts to any length, or to single shaft requirements. A gun-metal-like treatment protects the shaft against corrosion and provides for easy removal of fans in years to come.

Available in ratings from 1/15 to 1/4 hp, this replacement motor gives you the same General Electric quality designed and built into every Form G motor—outstanding moisture resistance, top-notch insulation, and long lubrication life.

Call your nearest General Electric distributor or your G-E Sales Office about this new replacement fan motor today. General Electric Co., Schenectady 5, N. Y. 723-42

Progress Is Our Most Important Product

GENERAL ELECTRIC

Editorial

The Man In the White Coat

Through our offices, occasionally, runs a man with a white coat—wearing a gas mask and carrying a negative ionizer in one hand, an air-sampler in the other.

We hardly look up any more; we know that Gene Sloane, editor of our sister publication, AIR ENGINEERING, has just returned from giving another talk on *white rooms,* those super-clean, air conditioned manufacturing areas which are finding increasing application in modern industry. Workers in such areas usually wear white uniforms.

Temperature, humidity, dust, air movement are controlled in these white rooms to a degree which exceeds even the official ASHRAE definition of air conditioning. While ultra-cleanliness and control are usually thought of in connection with romantic items like delicate optical or electronic systems, white rooms are reaching out toward more prosaic processes—the production of automatic transmissions comes to mind.

Indeed, the cooling industry itself has traditionally used segregated, cooled, and cleaned rooms for hermetic compressor production.

But the importance of these super-clean rooms reaches beyond the need or desire to control the quality of a few high precision devices. White rooms may provide the foot-in-the-door which will make possible an increased market for industrial air conditioning, plant air conditioning. There are several reasons why this may be so:

• White rooms, themselves, have proved repeatedly that they save money where products are super-machined, small, precise, affected by dust, heat, high or low humidity, mold, mildew, rust, bacteria, or radioactivity—to borrow a few words from an AIR ENGINEERING editorial.

• The industrial segment of air conditioning's potential market has the lowest saturation of the conventional three categories—industrial, commercial, and residential. The most optimistic estimates level off at about 3% saturation of manufacturing plants. A white room surrounded by sweating, overheated workers generates the desire for more comfortable working conditions throughout the plant.

• With organized labor becoming more and more highly paid, union leaders must seek points to bargain over other than wages. A few labor spokesmen have expressed interest in air conditioning, in worker comfort, as a possible bargaining item. The UAW has an industrial hygienist on its staff. - -

White rooms, alone, offer a good market: consider that a typical precision product area can be cooled with one ton of air conditioning for every 250-300 sq ft; some white rooms require one ton of cooling for each 100 sq ft.

Watch for the man in the white coat. He means business—air conditioning business.

The Best Type of Heating

Warm air, of course.

Not at all—hydronics is best.

Both wrong—electric resistance heat beats them all.

"Y'a pays yer money, y'a gets yer choice."

As the only all-industry newspaper in the heating-cooling industry, we sometimes receive suggestions to "come out for" one technology over another, to take a stand for this system over that.

So Solly. No can do.

To favor warm air exclusively is to condone the hundreds of thousands of installations where the far bedroom never gets warm enough; where the house chills uncomfortably just before the blast of hot air roars on.

To say that hydronics is best is to ignore problems with lag and override; to forget the irritation that comes from squeaks and rattles due to pipe expansion and contraction.

To praise only electric heat is to pretend there is no problem with humidity, odors, and operating costs.

On the other hand if, like some publications, we favored one type of heating over the others, we'd never report the benefits to be derived from CAC on warm air installations; the even, controlled heat which comes from a properly installed hydronics system; the fact that people will pay slightly more for flameless heat supplied by resistance elements because they like the individual temperature control in baby's room and the TV den.

Frequently, we are asked by warm air people, "What would you do about electric heat if you were one of us?" Or "How much of a threat is hydronics?"

Our answer is always the same. "If we were heating contractors, we'd conceive our role in life to be supplying winter comfort to our customers. We'd handle all kinds of heating systems and we would always offer at least one alternative for each heating job we bid."

It is impossible to recall any instance in history where a new technology was permanently defeated by a refusal to recognize its merits and impact, or held back more than a few years by a decision on the part of the *ins* to ignore it.

Heating technology is no different. You're giving jobs away when you refuse to handle hydronics or warm air or electric heating. Tell your customer the advantages and disadvantages of each type of heating; let him choose. Sell him winter comfort, not a net system of heating.

And take advantage of the coming seasonal lull in heating activity to learn about the methods you've been mad at till now.

A profession is intellectual in content, practical in application.

Indiscriminate granting of diploma and academic degrees has tended to obliterate the traditional distinction between vocational and higher education.

We do not consider it undemocratic to respect and reward excellence in athletics, art, or business. Why do we draw the line at education?

Americans have both physical and mental spectatoritis. We sit in the bleachers and let the game of life unfold before us.

Admiral Rickover

NEEDED: A MARKETING CRUSADE

A. T. Kearney & Co.
Chicago 3, Ill.

Editor:

You won't remember me but in my operating days with General Electric and Bryant Division of Carrier as well as through the many ARI meetings, I remember you most favorably—as one who was a progressive stimulant and rallying point to the industry.

I agree with you that real progress has been made in the heating-cooling industry in the last 15 years or so—technically and product wise—but I wonder if the industry has made the progress it should and could have in the all important area of marketing.

It seems to me that in this area of business activity much benefit could come to the industry through a straight crusade to stimulate effective marketing, distribution, and selling methods.

It's just one man's thought and there it is.

Best of the future to you, your publication, and the industry.

HAROLD DONLEY

GETS OFFER FROM USA — JOB IN CANADA

St. John's College
Cambridge, England

Editor:

Your letter of the 24th January quite astounded me, I never expected you to publish it as you did, thank you very much indeed. You will be pleased to hear that I am now fixed with a job, in Calgary in Canada, as a service engineer to an air conditioning firm.

The present trade setback has made the position of students rather difficult, many of my friends were unable to find employment at all, while I only had one offer, in the States, of labouring in Oregon. I consider myself extremely lucky to have found such a good job.

My letter in your editorial is the first thing I have ever had published, and when I saw it in the NEWS my morale was so boosted, that I wrote the *Sunday Times* in London, who, believe it or not have published it, you obviously brought me luck, thank you.

I do not, as yet, know my plans for the end of this summer, but if I do pass through Detroit I should very much like to meet you, I hope this will be possible.

CLIVE S. MENCE

WOULD LIKE TO COME TO USA

Vruswyk, Netherlands

Editor:

I am one of the many readers of your very interesting newspaper in the Netherlands and wonder if you can inform me about some questions I have in accordance with our profession in your country.

I am intending to immigrate to the U.S.A. Educated as a qualified electrical-mechanical- and A.C. & Rfg. engineer, my present job is calculating all kinds of refrigerating installations. Born on Nov. 28th, 1916, married, three children.

My questions are:

I. Is it possible for me to get a job as a Refg. & A.C. engineer, or do I have to get a license in the U.S.A.?

II. Is there any need for engineers anyhow, especially with the unemployment in the country?

III. Is my age an objection for getting a job?

I will be very thankful to you if you can give me an answer to these questions.

D. L. WARDENAAR

AIR CONDITIONING HEATING & REFRIGERATION NEWS
F. M. COCKRELL, Founder

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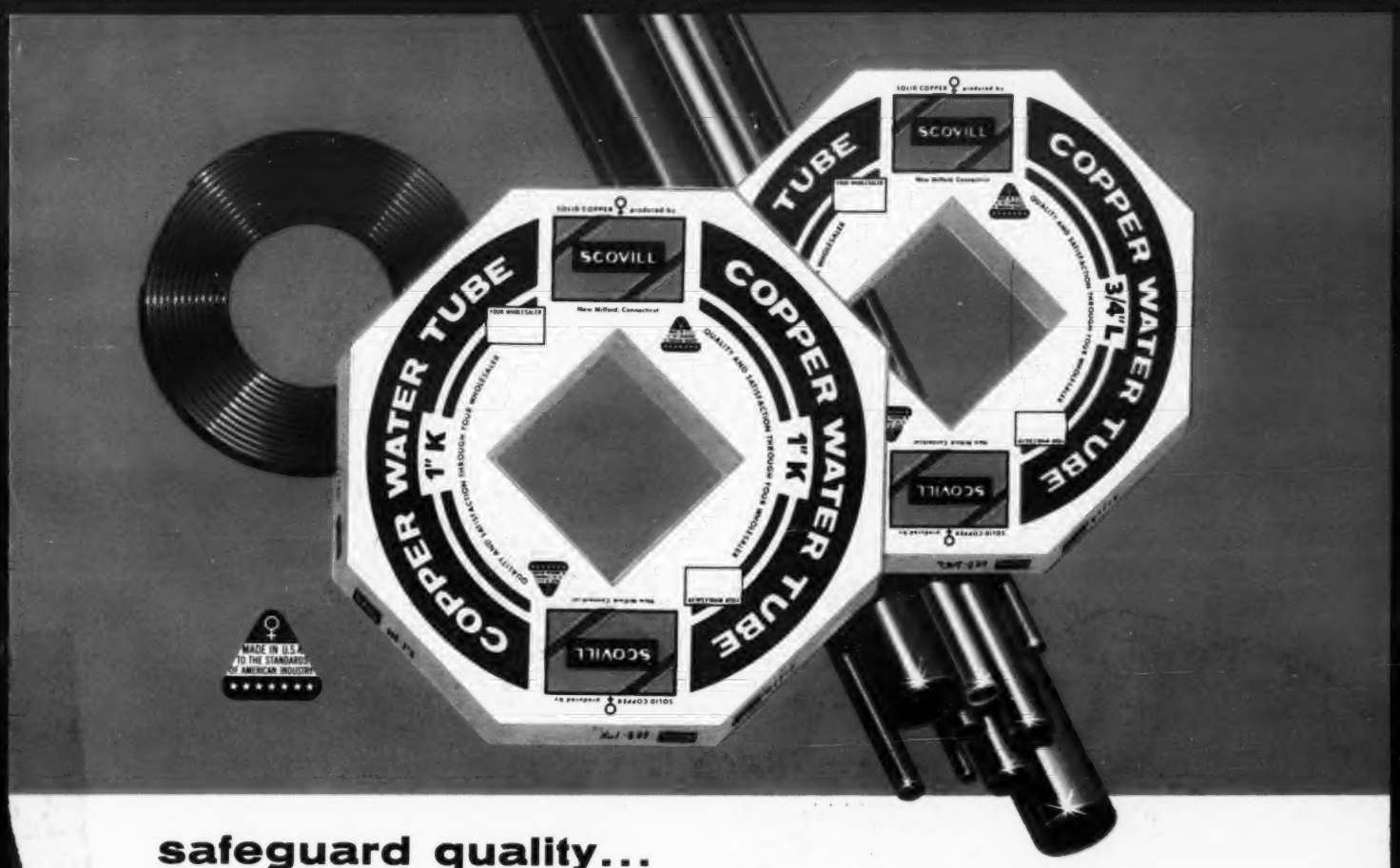

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here, there . . . almost everywhere

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Actually, he is working for you — our readers and our advertisers. Knowing full well that we will stay in business only so long as our publication continues to serve the interests of our readers, this audit of our *paid* circulation provides us with a regular and objective review of how well you think we are doing.

Knowing full well that sales messages must reach a responsive audience in order to be effective, our advertisers are also interested in the ABC auditor's call. The hard, and sometimes cold, facts he reports about our circulation provide you with an informed basis for investing your advertising money.

Yes, the ABC auditor has been here . . . and he will be here again, calling to check on how well we are doing our job and to provide the facts to help us *and our advertisers* do even better.

AIR CONDITIONING HEATING & REFRIGERATION ***NEWS***

450 WEST FORT ST. DETROIT 26, MICH.

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From the Files of the News

25 years ago . . .

Place of utilities in marketing air conditioning systems was outlined by Edison Institute speakers who noted that: "air conditioning is a new service to humanity and has emerged from the custom built to the ready-made stage"; "we can now determine with considerable accuracy the extent and type of the several markets that present themselves and measure the substantial progress so far made"; "we are in a position to state what air conditioning will and will not do and can predict the investment and operating cost for a particular job"; and "the basic consideration justifying the utility's participation is . . . sale of energy . . . (but) we also render a service to our customers that earns an exceptionally high degree of appreciation."

Standard warranty forms adopted by the Air Conditioning Manufacturers Association and the Refrigerating Machinery Association include: "seller shall repair or replace, at its option, free of charge, f.o.b. the place of manufacture, any part of the within equipment manufactured by it that is claimed to be defective in workmanship or material within one year." . . . The editor says that "it seems fairly obvious that air conditioning manufacturers should cultivate the commercial refrigeration dealer as one of the best possible outlets for the sales of equipment (because) no other type of dealer would need less training in the engineering, selling, and installation of air conditioning equipment (and) it's important for air conditioning to put its best foot forward while so vulnerable to public opinion."

Analyzing the probable future of room air conditioners, an Edison Electric Institute speaker declared that "it seems doubtful that they will radically change air conditioning from the enginering-contracting activity that it is today. There is no question, however, but that they will have considerable effect in spreading desire for, and use of, air conditioning." Network booths for NBC and CBS broadcasters at political conventions will be air conditioned by Delco-Frigidaire.

10 years ago . . .

A New York City restaurant with an old, bulky, ineffective air conditioner recently installed a new 10-ton Typhoon package unit which conserves valuable restaurant space because it could be recessed in the wall. . . . A 65-ton air conditioning system which includes pneumatic controls and automatic air filters, plus five zones of reheat for the main floor and six for the second story, is being installed in a "50-year-old modern plant" which manufactures Jack Frost sugar.

An economy sized atomic pile, designed to heat the home all year at a cost which will be less than the average family's current fuel bill for one month, could be one of the next big innovations in home heating, said a Bell & Gossett Co. official. . . . To check the effects of temperature and humidity on chickens, the Louisiana State university is experimenting with an air conditioned chicken brooder, with a central system providing about 3 tons of refrigeration. The unit is designed to hold year-round temperatures of 70° and 60% relative humidity, with outside temperature of 95°F wet bulb and 80°F dry bulb in summer and 20°F in winter.

To insure exact metering of gas to customer's homes, the Minneapolis Gas Co. has air conditioned its meter proving room with a 5-ton Bryant unit and a blower so that all meters will be set to register the same passage of gas at the same temperature and humidity level. . . . Despite the shortage of wrapping materials, more and more meat departments are converting to 100% self-serve, Super Market Institute was recently told.

50 years ago . . .

From the RECOLD MUSEUM

These 40-to-60 years ago items are from the Recold Museum Library, maintained by Hy Jarvis, Recold Corp. president.

In the matter of delivering ice on Sunday, the ice dealer is between two fires. If the city ordinance is not working against him, his conscience is, because the men who drive the wagons and carry the ice are of themselves opposed to a seven-day week. On the other hand, there are the newspapers. They rage if every taxpayer cannot get a nickel piece of ice in his third floor back apartment any hour of the Sabbath. Then again, they are irate and take the ice man to task for running his big, noisy wagon around town on the peaceful Sabbath. What seems to be needed is cooperation among ice men to make Sunday a real day of rest, for both beast and man.

Hawaiian Distributor Named by Fedders

MASPETH, N. Y.—Mechanical Equipment Supply Co., Inc., Honolulu, Hawaii, has been named exclusive distributor for the Fedders Corp. in Hawaii, according to U. V. Muscio, Fedders executive vice president.

The new distributor, headed by Francis F. Sen, president, will handle the complete Fedders line of room and central air conditioners. Heretofore, distribution of Fedders equipment in Hawaii was handled by the firm's export department.

Paul Mueller Co. Completing Expansion

SPRINGFIELD, Mo. — The Paul Mueller Co. is putting the finishing touches on its $350,000 1960-61 expansion program.

The recent expansion program, the 13th building addition since the firm moved into its new quarters in 1950, consists of the acquisition of a 3,200-sq ft office building and the construction of a 6,000-sq ft plant building all for the Construction Products Div.; the construction of a new 10,000-sq ft general warehouse addition to the main plant; and the construction of a 27,000-sq ft building across the street from the main plant for the purpose of increasing the plant's facilities for the fabrication of stainless steel equipment.

With the addition of the new facilities, the company now has a total of 129,665 sq ft of plant and office area on 9.6 acres. At the present time the firm is employing 270 persons, it was pointed out.

The company is engaged in several diversified operations: the manufacture and distribution of the Mueller bulk milk farm tank; the manufacture and distribution of Mueller cheese equipment, storage tanks, processors, and other equipment for the dairy processing plant; the manufacture and sale to poultry processing plants of poultry processing equipment; the fabrication of stainless steel and other types of equipment for the bakery, food processing, paper cup, brewery, chemical, and other industries throughout the United States; and in a regional area the fabrication and/or distribution of metal construction products.

Your best promise of profit for '61!

HONEYWELL'S NEW

RESIDENTIAL ELECTRONIC AIR CLEANER

The profit-package that introduces THE SELF-CLEANING HOME!

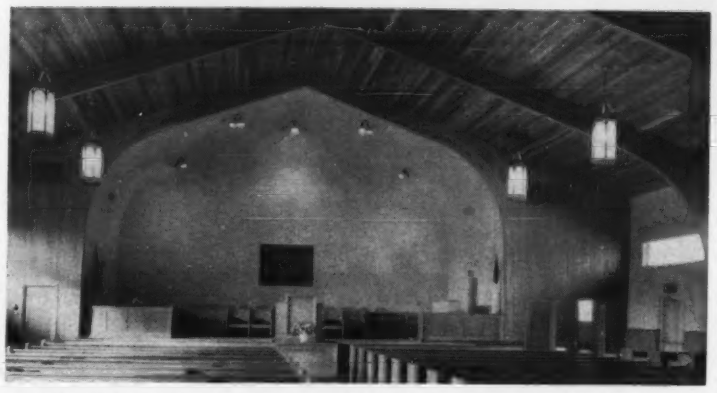
See how this built-in selling idea works! ➡

Tucson Baptists Find Packaged Heat Pumps Ideal for Church, School, Office Buildings

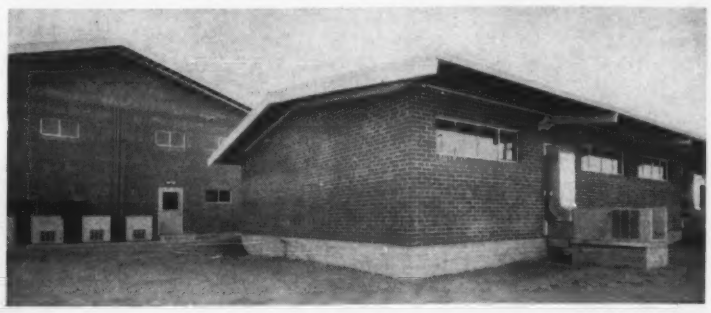
TUCSON, Ariz. — Ten packaged heat pumps provide year-round air conditioning for the Palo Verdes Baptist church and its associated three-room school building and administrative building.

By installing packaged units, the church's building committee believes that it saved 12% on installation cost and an estimated 15% on operating cost over an alternate proposal of central air conditioning for the church plus window units for the school.

"Our church, classroom and office buildings were opened in October, 1960," reports Reverend Earle E. Matteson, "and were designed from the start to have air conditioning and heating due to our area's very hot summers and cold winter nights."



IN THE CHURCH INTERIOR the air conditioning supply grilles can be seen near the roof on either side of the chancel. Return air grilles are door-shaped louvers below the supply grilles. The baptistry is in view of the congregation through the large window in the chancel wall. A total of 26 tons of air conditioning capacity is provided the 6,900-sq ft church.



FROM THE REAR of the school and church the packaged heat pumps that provide both summer air conditioning and winter heating are evident. Weather-protected, the heat pump units mounted outside, free valuable interior space for teaching and church services. The compact units may be easily screened by foundation planting.

Central System, Window Units Were Considered First

"We originally planned a central air conditioning system in our church, but changed our minds when we found that architectural features would not permit breakthrough—and learned how much the central air conditioning system would cost because of all the ductwork.

"Now, with the separate package units we have insurance that even in the case of an equipment breakdown, there will be no interruption in church programs."

In the case of the school classrooms, performance rather than economics dictated the change to packaged heat pumps. The original proposal called for small window mounted heat pumps. However, a check showed noise from the units would disturb the students.

Instead the package units mounted outside the building are used with a specially designed noise trap in the ductwork to prevent noise transmission to the classrooms.

Though the new school system costs more than that originally proposed, the savings made in the church system were sizeable enough to warrant the additional expenditure on part of the project and still produce a net savings for the entire project, Rev. Matteson indicated.

In the Palo Verdes installation, the heat pumps are designed to keep the classrooms and church at 78°F when outside temperatures reach 105° and at 72° when outside temperatures go down to 25°.

Humidity Practically Nil

Since humidity is practically nil in this region, design problems were primarily concerned with high summer temperatures.

At present three classrooms in the Palo Verdes Baptist school are served by Perfection heat pumps mounted directly outside the building. Each is an air source unit with cooling capacity of two tons and heat capacity of 21,500 Btu. Classrooms total 2,132 sq ft in area. Each unit is controlled by a separate thermostat inside the space.

To prevent transmission of the mechanical noise to the teaching area, the unit are isolated on specially designed vibration mounts consisting of a 6-in. thick glass fiber pad resting on a low brick platform. Atop the glass fiber pad is a sheet metal cover on which the heat pump rests.

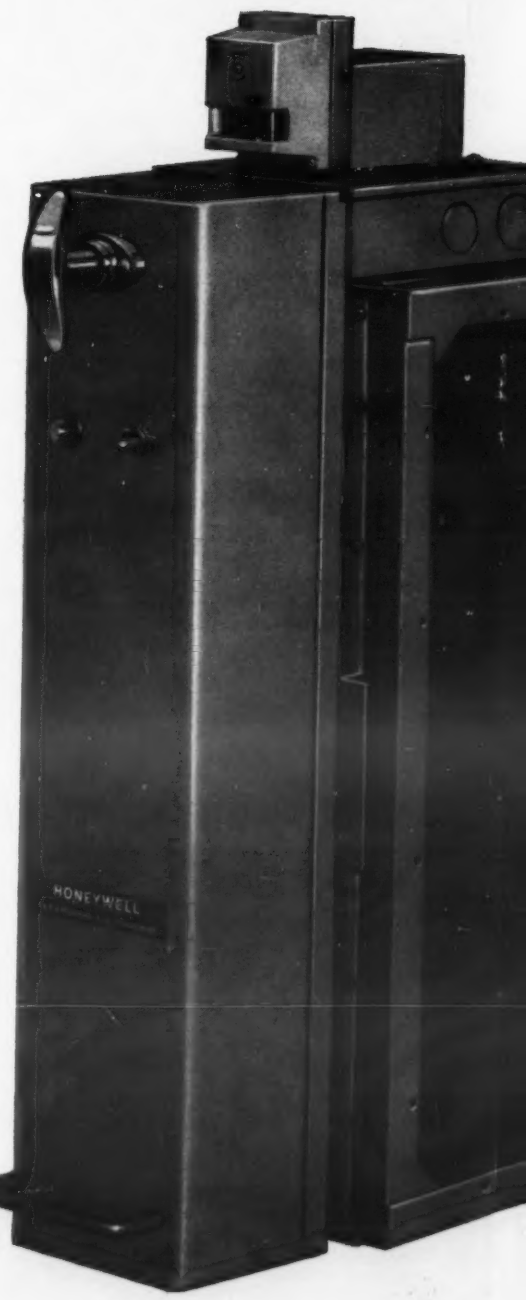
The supply ducts are acoustic lined with glass fiber that also serves as insulation. The return air duct from each classroom—since it is shorter in length—is equipped with a simple sound trap designed by the air conditioning contractor, Leonilo Larriva, owner of Airco Heating & Equipment Co.

Essentially it is a short section of double width duct with

Honeywell's brand new housewife item that makes the self-cleaning home possible!

The first designed

LIVING AREA CONTROL CENTER—The homeowner's visible symbol of clean air—a constant conversation piece.



Offers dealers, builders great new profit opportunities!

Now you can answer that universal complaint: "woman's work is never done". The Honeywell Residential Electronic Air Cleaner traps from 70% to over 90% of all airborne dirt particles in a home. With all its work and money-saving advantages, it offers tremendous selling potential and a good margin of profit. Now, for the first time you can offer your customers a complete home comfort package—heating-cooling, humidity control and electronically clean air.

Cost less than a good refrigerator

The initial low cost of the Electronic Air Cleaner is an important selling point. And because it requires no plumbing and fits easily into any forced air system, it can be installed for as much as $100 less than other units.

Easy to install and maintain

The complete unit comes to you as a package, pre-assembled and pre-wired at the factory. It can be installed with only minor changes in ductwork and with 120 volt wiring. There are no periodic filter replacements because the cell is permanent, and the homeowner performs all the simple maintenance himself. You keep your profit!

Backed by Honeywell name and service

As a product of Honeywell research, the Electronic Air Cleaner sets a new standard of performance and quality. The name is one your customers know and respect. And with 112 Honeywell offices across the nation, you get sales and training help when and where you need it.

Gives everyone more to merchandise

Added to your present line of heating-cooling equipment, the Electronic Air Cleaner will help you beat the cost-price squeeze by offering builders and homeowners a brand new package. Builders will find it a dramatic new sales feature. Good for your existing home modernization andadd-on business, too.

INSTEAD of the window-mounted air conditioners originally proposed for the classrooms, the outside-mounted heat pumps were used to keep mechanical noise from disturbing students. Marion Larrivo, Airco Heating & Equipment Co., checks the thermostat setting. Grille at top is for the conditioned air supply; grille at bottom is the return air exhaust.

a single vertical sheet metal barrier across the air path. The barrier forces returning air or outflowing noise to make four right angle turns around the barrier. Result, any mechanical noise from the heat pump gets lost in the maze.

Outside Installation Saved Teaching Space

Placing the heat pump units immediately outside the classrooms saved valuable teaching space and the outdoor mounting of the weather-protected units makes them easily accessible for maintenance. Units are at the rear of the building and low shrubs will easily screen them from view.

The main church area and large baptistry that adjoins the church are served by two dual combination air handling units installed inside the attic area in separate rooms near the roof. The four 5-ton remote compressor and condenser units are located at ground level immediately behind the church with the insulated refrigerant piping running up the outside wall to the attic level.

LEONILA LARRIVA, president of Airco, checks the vibration isolation mounting of heat pump outside one classroom. A 6-in. thick glass fiber pad is placed on top of the low brick platform, covered with a sheet metal covering. To prevent noise transmission to the classroom, the supply duct is lined with glass fiber which also doubles as insulation. Airco also designed a special noise trap for the return air duct. The trap is approximately twice as wide as the duct and has an interior baffle that forms a "maze" against sound travel.

The conditioned air is supplied through small grilles located on either side of the chancel. Return air grilles are door sized louvers on the floor level just below the supply grilles.

Operation of the units are controlled by two thermostats placed alongside the return air grilles. Thermostats are two-staged with a three degree differentiation.

If the day is not too warm, they may call for operation of only two of the four units.

If the supply of conditioned air is not adequate to meet the temperature setting, the thermostats then switch on the other two compressors and air handling to units.

In addition, the choir loft is served separately by two self-contained 3-ton packaged heat pumps on either side of the loft and balcony area. Each unit is separately controlled by its own thermostat.

In total, the heat pumps serving the 6,900-sq ft church have a capacity of 26 tons of air conditioning.

4-Ton Remote Heat Pump Serves Office Building

In addition, the adjoining office building is also serviced by a single 4-ton remote heat pump. The compressor-condenser unit is mounted outside the building and a small air handling unit is located inside in a closet.

"It is too early to tell what if any significant benefits may be derived in church attendance or teaching effectiveness," Rev. Matteson commented, "but we can certainly expect our congregation, pupils, and staff to appreciate the advantages of uninterrupted air conditioning."

Design and installation of the Perfection heat pump system in the Palo Verdes Baptist church and school was handled by Airco Heating & Equipment Co. of Tucson.

Founded in 1941 by Marion Larriva, Airco is owned by Leonilo Larriva. The firm has a fleet of 19 quarter-ton trucks, 11 of which are radio equipped.

Airco services all of southern Arizona, an area with a population of approximately 600,000, of which 265,000 are located in Tucson. The firm maintains a full service department, does electrical wiring and fabricates its own ductwork, all aluminum. (See April 11, 1960 issue of the NEWS, pages 60-61.)

Active promoters of heat pump equipment, Airco feels that the combination of the Tucson climate and favorable electric rates offers good selling points. Larriva has handled Perfection units for three years.

For April

Shreveport, La. Issues 112 Permits Totaling $380,152

SHREVEPORT, La.—During May, the city's Air Conditioning Dept. issued 112 permits for air conditioning, heating, and refrigeration installations totaling $380,152, says Clyde Juneau, air conditioning inspector.

This compares with 90 permits issued during April for a total equipment and installation cost of $464,538. The May permits were broken down as follows:

Residential: year-round air conditioning and heating—17; air conditioning—10; heating—38; replacements—6.

Commercial: year-round air conditioning—10; air conditioning—4; replacements—6.

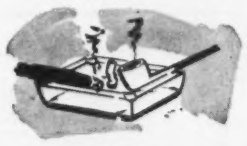
Alterations and/or additions—11. Refrigeration—7.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Electronic Air Cleaner exclusively for the home!

Women like the idea of less housework!

Who doesn't want lower cleaning and redecorating costs!



Talk about banishing smoke and minimizing odors!

The whole family benefits from removal of up to more than 90% of airborne irritants and bacteria.

We're helping you sell it!

See how Honeywell is telling your best prospects about the benefits of Residential Electronic Air Cleaning with big, strong advertisements in *House Beautiful, Better Homes & Gardens, Sunset, American Home, House & Home* and many of the building annuals.

Honeywell

First in Control

SINCE 1885

Look at the selling advantages you get →

Lightweight Sound Meter Fits Palm of Hand

● A new "exceptionally lightweight" sound meter has been announced by H. H. Scott, Inc., Dept. AH&RN, 111 Powdermill Rd., Maynard, Mass.

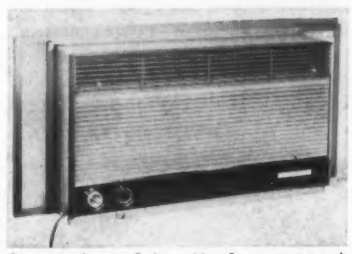
Measuring 2 in. by 3 in. by 6 in., the new model 450 can be held in the palm of one hand. It weighs 2 lbs, and is operated on an ordinary 22.5-volt battery with an operating life of 30 hours, according to the company.

The meter has a wide range of operation—from 35.-142 db sound level range and a 40-8000 cps response, it was noted. This transistorized meter comes in a heavy gauge aluminum case. It has a Rochelle salt diaphragm-type microphone. There is a direct reading scale.

The 450 was specifically designed to the new ASA Standard A, B, and C weightings, the company said. Price is $150, f.o.b. Maynard. Its uses are said to include checking conformity to air conditioning and ventilating installation specifications.

More details on the products described on these pages may be obtained by writing the manufacturer at the address given in each story.

Offer Panels, Mounting Frames with Larger Units



● Carrier Air Conditioning Co., Dept. AH&RN, Syracuse 1, N. Y., announced it will offer adjustable wing panels and mounting frames as optional equipment with room air conditioners up to 9,600 Btu capacity.

Previously available only with portable units, the panels and frames are being manufactured to fit Carrier's larger "Sceptre" line of six models, including two heat pumps.

"This equipment reduces installation time to a few minutes by eliminating the need to cut and fit panels and to attach a support bracket to the window exterior," the company said.

The sliding wings lock to give a weather tight fit.

Explosion-Proof Refrigerator Model Added

● A new model has been added to its line of explosion-proof refrigerators by Kelmore, Inc., Dept. AH&RN, 599 Springfield Ave., Newark, N. J.

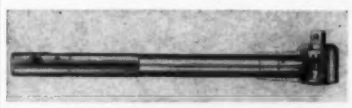
The 10-cu ft unit is specifically designed for use in research laboratories in industry, high schools, universities, and hospitals; wherever flammable or explosive chemicals are stored or where conditions of the surrounding air are such that explosion-proofing is mandatory, the company said. In appearance, it is identical to a kitchen-type refrigerator and plugs into any standard wall socket, the manufacturer says.

Unit Heaters Feature 'Resistal' Exchangers

● The production of gas-fired unit heaters in capacities ranging from 25,000 to 225,000 Btuh input with special "Resistal" heat exchangers has been announced by Mueller Climatrol, division of Worthington Corp., Dept., AH&RN, 2005 W. Oklahoma Ave., Milwaukee 1, Wis.

The company said the Resistal aluminized steel heat exchanger will improve the performance and extend the life of the unit heater. "Resistal" heat exchangers will withstand higher temperatures without scaling or discoloring more than ordinary steel exchangers, it is claimed.

The unit heaters are shipped completely assembled with controls pre-wired and drilled cast-iron burners in place. The smallest unit is 21 5/16 in. high, 15 3/8 in. wide, and 17 1/2 in. deep; the largest is 43 1/4 in. high, 33 3/8 in. wide, and 36 1/16 in. deep.



Tool Is for 'Impossible To Reach' Nuts, Screws

● Called the Airserco "Reechet" tool, Airserco Catalog No. 8865, a new right-angle drive for box-sockets is being supplied by Airserco Mfg. Co., Dept. AH&RN, 435 Melwood St., Pittsburgh 13, Pa.

This tool is said to fit all standard 3/8-in. square sockets, extensions, and handles. It is a gear-driven, socket extension, with a 2 to 1 gear ratio for increased power.

This socket extension, with or without other socket extensions, can be used to turn standard box-sockets in "impossible to reach" locations, the company indicated. It will also permit nuts and screw heads to be turned that otherwise would require the removal of parts that interfere with the use of conventional wrenches and attachments, Airserco said.

Cell Foam Truck Body Insulation Available

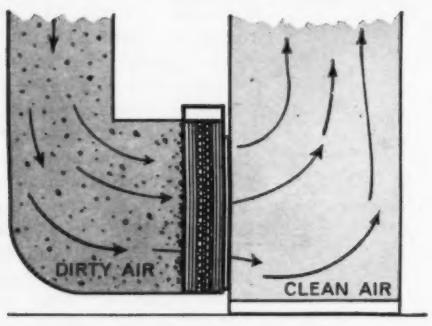
● New truck body insulation is being manufactured by Cell Foam, Inc., Dept. AH&RN, 205 S. Sylvania, Fort Worth, Texas, from expandable polystyrene that, the company claims, "will resist any temperature change between -300° F. to 175°."

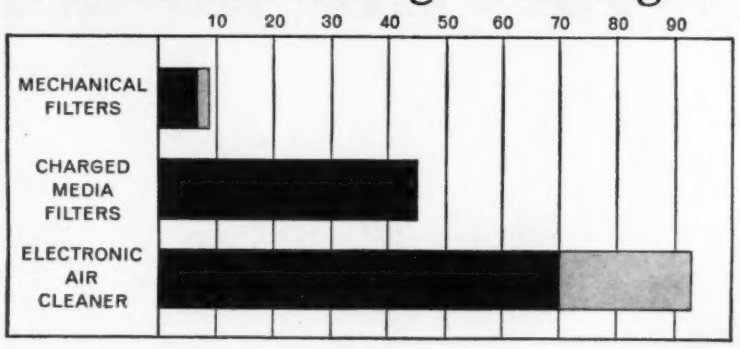
"The new cell foam insulation material is extremely lightweight, with an average density of only 1 lb per cubic foot, although densities up to 4 lbs per cubic foot can be made," it was stated.

"The insulation can be applied to the skin of the truck body with mastic or epoxy cements. A sandwich laminate can be made with the material as the center core between either wood or metal."

Reliability is built into Honeywell's new Electronic Air Cleaner

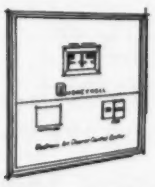
Fresh sales appeal . . . Powerful selling advantages!





The Honeywell Electronic Air Cleaner is the most compact unit on the market. It's available in two sizes (20 by 25 and 16 by 25 inches) and is only seven inches thick when installed in the return air duct. Handles up to 2200 CFM (about 5½ tons of cooling—220,000 BTU output, heating.)

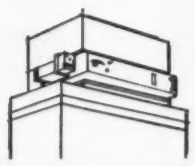
Tested by the National Bureau of Standards dust spot method, the Electronic Air Cleaner traps from 70 to over 90% of all airborne particles. By comparison, standard mechanical filters have an efficiency range of from 5 to 8 per cent; charged media filters average less than 50% efficient.



Living Area Control Center provides a constant performance check. Indicates when collectors need washing. Permits remote operation of fan.

Filter-Flag* indicates at furnace or air conditioner and at the Living Area Control Center when the protective screen needs cleaning.

Simple Washing Kit includes everything the homeowner needs to wash the air cleaner collectors (normally once every three months).



One-side Access feature makes it possible to install the unit in any location. Clearance is required only for removal of the door assembly.

Comes completely pre-wired and pre-assembled

The Honeywell Electronic Air Cleaner is shipped from the factory completely pre-wired and pre-assembled. Electricians simply hook up the 120-volt connections. Sheet metal men install in return air ductwork with standard fittings.

It can be installed with any central forced air heating, cooling or ventilating system, in a new or existing home. Compact design fits all types of systems, regardless of model or location.

The unit installs as a boot assembly in the return air duct, just ahead of the fan compartment. Mounts in any position, vertical, horizontal or angular, left or right air flow.

For complete details on Residential Electronic Air Cleaning and for a free merchandising kit, call your nearby Honeywell office. Or write Honeywell, Dept. AN-6-36, Minneapolis 8, Minn. In Canada, write Honeywell Controls, Ltd., Toronto 17, Ont. *Sales and Service Offices in all principal cities of the world.*

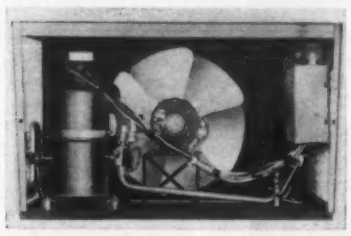
Honeywell

First in Control

SINCE 1885

What's New

Subcooling Gives Unit High Btuh per Watt



● Refrigerant subcooling through special coil circuiting provides a high Btuh-per-watt performance in its new HSA2-251, nominal 2½-ton condensing unit now in production, according to Lennox Industries, Inc., Dept. AH&RN, Marshalltown, Iowa.

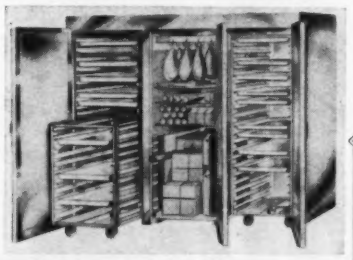
Liquid refrigerant reaches the evaporator up to 20° cooler than the condensing temperatures, the company said.

"The new unit employs a high-speed Bendix-Westinghouse compressor which is noticeably quieter than earlier models," it was stated. "Both electrical and refrigerant connections are made at a central location on the condenser side of the cabinet, with flare fittings provided for the refrigerant plumbing."

The special axial-flow fan which the company calls a "Power Prop" delivers 1,855 cfm in a straight line pattern through the condenser which has 3.75 sq ft face area and four rows of ½-in. tubes.

Cabinet base and orifice panels are coated with a non-hardening mastic. The one-piece cabinet is of hot-dipped zinc-coated steel with baked on thermo-setting acrylic enamel. Sides and top are acoustically treated with ½-in. glass fiber.

Refrigerator Offers Three-Way Storage



● A new three-way time and space-saving refrigerator, for the storage of food on racks, shelves, pan slides, and bulk storage, has been announced by The C. Schmidt Co., Dept. AH&RN, 1712 John St., Cincinnati 14, Ohio.

The refrigerator "permits a variety of storage for small operations and economical food handling for the large ones," the company said. "Floor flush with building floors make it possible to use racks without recessing in the floor or employing ramps."

Rybolt Adds Ducted Electric Furnace

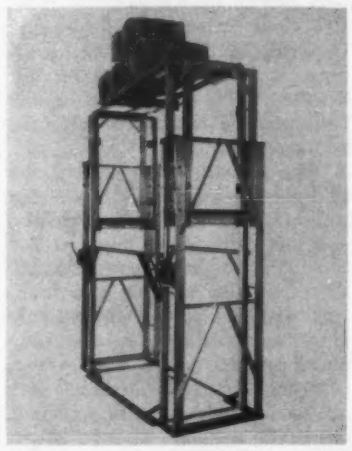
● A new ducted electric furnace has been announced by The Rybolt Heater Co., Dept. AH&RN, Ashland, Ohio.

"One model furnishes complete installation flexibility for hi-boy, counterflow, or horizontal applications," the company declared. "It is UL approved for zero clearance on sides and rear and provides instant shut-off and return to minimum starting load in event of power failure or limit cut-off. This reduces wire size requirements and eliminates power surge problems.

"Controls are not affected by ambient temperature and each stage is positively sequenced and timed in fixed steps. This gives modulated heat by turning on only the number of stages needed to match heat loss. The blower is belt driven and separately controlled to eliminate cold air at the register.

"Complete stage selection is available from 10 kw (34,200 Btu) to 25 kw (85,500 Btu). This assures easy field selection and adjustment in 5 kw steps. It is designed for air conditioning with all equipment needed available from Rybolt."

Portable Lift Hoists 1,000 lbs. 10 Ft.



● A new "Alumalift" model #1000, a portable lift which reportedly "assembles in five minutes without any wrenches and yet will lift 1,000 lbs up to 10 ft high," has been announced by Amble Mfg. Co., Inc., Dept. AH&RN, 36-07 164th St., Flushing 58, N. Y.

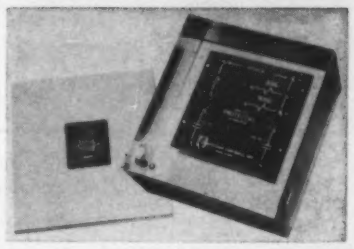
"Disassembled, it can be carried within a station wagon or panel truck," the company said. "One section of this model can be used as a fork lift which can be used for servicing transom installations and fan coil installations up to 500 lbs.

"The heaviest section weighs only 80 lbs, yet raises 500 lbs to 10 ft, making it ideal to take along on installations where heavy lifts cannot be used."

Alternator Actuates Duplex Equipment

● A new controller, the "Protectal Alternator," has been developed by Protection Controls, Inc., Dept. AH&RN, 7317 N. Lawndale, Ave., Skokie, Ill., for actuation of duplex equipment.

"Applications include duplex pumps in boiler water return systems, storage tanks, sump and sewage units, and various fluid process systems; also air conditioning equipment," it was pointed out.



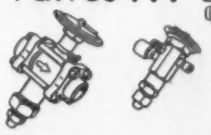
"Outstanding new design feature is a simplified, yet foolproof alternating mechanism which has a minimum of moving parts, and requires no lubrication or adjustments. Entire assembly is mounted on a single, removable panel.

"The Alternator is controlled by conventional pilot devices—float controls, pressure switches, thermostats, probes, etc.—and its two heavy duty solenoids (one for emergency use) operate separate pump switches at predetermined time intervals or when specific fluid levels are reached."

List price is $65.

WANT PEAK PERFORM-ANCE AIR CONDITION-ING*?

Buy Sporlan Catch-Alls... ...See-Alls...

Solenoid Valves... ...Thermostatic Expansion Valves...  and Refrigerant Distributors...

They're the Perfect Combination for any size installation!

* Yes, and you can be sure of right down the line peak performance every time with:
a Sporlan Catch-All... the first molded porous core filter-drier
the amazing See•All... the first combination moisture and liquid indicator
a Sporlan solenoid valve with a moisture proof layer wound coil
a Sporlan thermostatic expansion valve with a Flow Master element
and... a Refrigerant Distributor with the versatile interchangeable nozzle

See your Sporlan Wholesaler today... *he'll be glad to fill you in on all the details!*

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Export Dept. 85 Broad Street, New York 4, N. Y

What They're Saying, Doing

On the Industry's Firing Line Today

THIS COLUMN SPOTLIGHTS current outstanding activities and thought-provoking attitudes of those who are engineering, selling, installing, and servicing the industry's products.

Wholesaler Uses Dale Carnegie and Radio-Phones To Improve Service

LOS ANGELES—An important factor in the progress of any wholesaling establishment, as Ernest Younis of Air Cold Sales, Inc. here sees it, is the manner in which it will continue to improve the way in which it serves its customers.

There are elements in providing customer service—people, and things. In the latter category some of the most important "things" can be improved communication and delivery devices.

Younis has been doing two things to improve both factors. As an independent wholesaler of air conditioning and refrigeration equipment and supplies, he is not generally afforded an opportunity to take advantage of some of the sales training schools offered by those who are marketing direct to the public. So he had to seek some independent way of upgrading the sales and managerial talents of his employes.

An obvious answer were such courses as are offered generally, and probably the best known of these are the Dale Carnegie Courses. So, 10 of the Air Cold Sales, Inc. employes working in the main and two branch stores have, or are now completing, the Dale Carnegie Leadership Course. Three have completed the Sales Training Course. Other employes will take the Leadership Course. The company pays the bill for all of this training.

Truck Driver Was Taking Course on His Own

An interesting sidelight reveals the kind of interest and enthusiasm a project of this type will generate. Younis discovered that one of his truck drivers, without informing Younis, had started the Leadership Course on his own. When the wholesaler found that another driver also expressed enthusiasm for this kind of training, Younis picked up the cost of sending them through.

"We are sending the men through the courses in different stages in order to keep the competitive spirit going," says the Los Angeles wholesaler. "As one group completes the course we will send another group through in overlapping phases. This way we can get the various men to use what they learn by taking part in our weekly sales meetings."

Younis says that the improvement in customer relations and general over-all operating efficiency have more than justified the cost in his own mind, but he has also been pleased by the reaction of both buyers and sellers on the improvement shown by the staff in their handling of people.

Radio-Phone Equipment

In the realm of "things" to improve his company's operations and customer service, Younis has been installing radio-phone equipment in four delivery trucks and six sales cars. Air Cold Sales, Inc. is leasing General Electric 450 M.C. radios with a repeater station on Mt. Wilson. This will provide the firm with more than a 100-mile radius coverage.

"We will dispatch our trucks and sales cars in order to speed up our service, and expedite special pickups or buyouts for our customers," says Younis. "We can also keep in close contact with our salesmen, and who they are calling on, as they check in and out of every stop.

"This way we can use them on special assignments, or what we will call a 'flying squad team' to follow up on phone calls that come in for quotations. In the past we have lost out on the rush type of phone calls during the peak of the season, and we feel that the radio equipment will pay for itself by the service rendered.

RADIO-PHONE COMMUNICATIONS room in headquarters of Air Cold Sales, Inc., Los Angeles air conditioning and refrigeration supplies wholesaler, enables main office to stay in constant touch with branch stores and four delivery trucks and six sales cars, thus affording opportunity for improved operations and better service to customers.

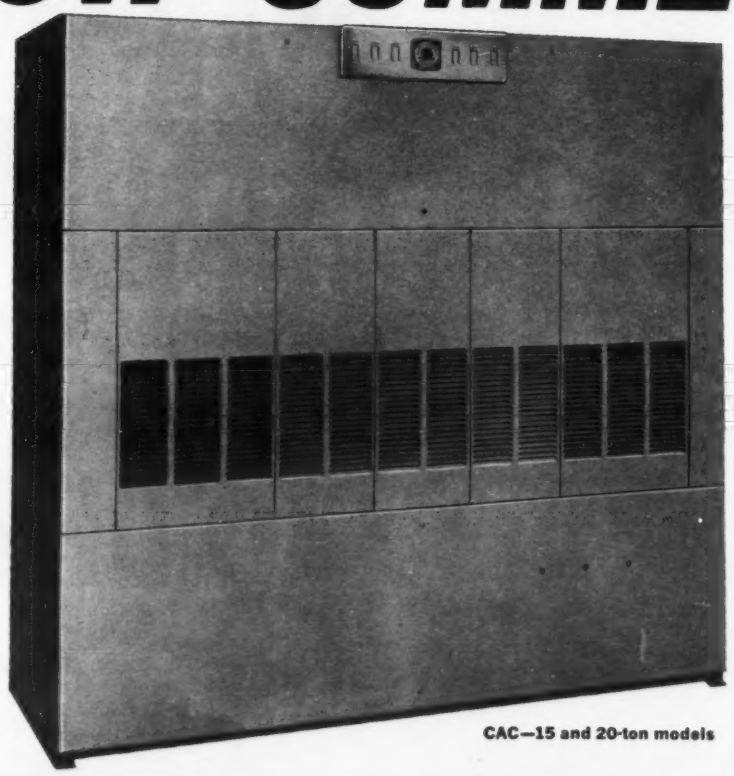
"The anticipated savings in our phone bill alone, between our three stores and salesmen should pay for over one half of the cost of leasing the radio equipment."

Younis operates his radio-phone communication system under a license that specifies "450 MC Repeater Station Business Radio." The Federal Communications Commission, a few years ago, set aside a number of radio channels to encourage the use of radio for personal or business matters. To get a license the individual fills out a simple form at the time he obtains the equipment.

Known sometimes as "Citizens Bands" systems, these radio-phones can be used for communication between a number of individuals at different locations, so long as they are all tuned to the same channel.

Looking for a Business to Buy . . . ?
Check the Business Opportunities Section in the classified advertising columns.

NOW-COMMERCIAL

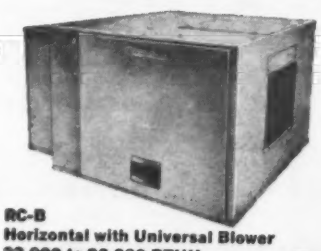


CAC—15 and 20-ton models

NEW!

CAC Units (Water or Air Cooled)—These units are designed for use in restaurants, supermarkets, offices, factories, churches, larger homes, etc. They are available in both packaged and split-system types. The cabinets of the units are compact (see size table, right) and the units are easy to install. They are available in 3•, 5, 7½, 10, 15 and 20-ton cooling capacities. The 3, 5 and 7½-ton units are equipped with a single compressor, the 10-ton units with a single compressor or double compressors, and the 15 and 20-ton units each have two compressors. Optional plenums are available that have four-way adjustable grills. All

SPLIT SYSTEM AIR CONDITIONER



RC-B
Horizontal with Universal Blower
22,000 to 82,000 BTUH

RC-H
Horizontal
21,600 to 56,000 BTUH

CONDENSING UNIT

AC-B
2, 3, 4, 5 & 7-ton cooling capacity

EVAPORATORS

The RC-B evaporator, with its universal blower, can be mounted with its own duct-work or used where a furnace has insufficient blower capacity. The three other "add-on" evaporators shown here offer complete versatility of installation to a dealer.

RC-V
Vertical
22,000 to 55,000 BTUH

RC-C
Counterflow
21,000 to 46,000 BTUH

THE COMPLETE LINE IS

Briley Appointed To Sales Position At Kerby Saunders

NEW YORK CITY — George C. Briley, formerly national field sales manager of the Frick Co., has been named vice president and sales manager of Kerby Saunders, Inc., here, the latter firm announced.

G. C. Briley

Briley will supervise sales for Kerby Saunders in the fields of air conditioning, heating, refrigeration, plumbing, and industrial piping in this country and abroad.

One of the world's largest mechanical contracting firms, Kerby Saunders is presently engaged as mechanical contractor for the Equitable Life Assurance Society home office building in New York City, and has been responsible for such projects as Lever House, the United Nations building, Socony Mobile building, Mile High Center in Denver, and Pittsburgh's Gateway Center, it was noted by the contractor.

Edwards Named to OEM Post of Danville Div.

DANVILLE, Ill.—W. A. Edwards has been appointed as sales representative for the Bohn OEM Coil & Commercial Refrigeration departments of the Danville Div. of Bohn Aluminum & Brass Corp.

Edwards, who lives in N. Decatur, Ga., will represent Bohn in Georgia and in all of the counties east of, but excluding Jackson, Calhoun, and Gulf in Florida.

World Trade Corner

FEDDERS CORP announced that General Steel Wares, Ltd., Toronto, Ont., has been licensed to manufacture Fedders central air conditioners in Canada. General Steel Wares makes Fedders room air conditioners under a licensing agreement signed in 1959 and is also the exclusive Fedders distributor in Canada. Its plant is in London, Ont.

* * *

LOHMANN INTERNATIONAL, LTD., export managers-import agents, has been formed and is located at 26 Broadway, New York City 4, it was announced. Ernst Lohmann is president and Werner E. Scheidegger is vice president. Both were formerly associated with Sabal-Kielmann, Inc., it was noted. The firm has been appointed the exclusive export representative for Queen Products Div., King-Seeley Thermos Co., manufacturer of "Scotsman" automatic ice machines, according to the announcement.

* * *

WORTHINGTON CORP. announced the election of Fred R. Ellenberger as vice president, international operations. He succeeds S. Riley Williams who has reached his normal retirement date. Williams will continue with the company as vice president-consultant.

* * *

SABAL-KIELMANN, INC., export managers-import agents, New York City, announced that Robert E. Mercer has joined the firm as vice president. His duties will be to develop new lines, handle relations with manufacturers, and set up an import division. Mercer was formerly general sales manager of Brown Stove Works.

* * *

THE WARREN CO., INC., Atlanta, reported that one of its largest export shipments ever, left New Orleans in April for Khorramshahr on the Persian Gulf. The shipment included 14 large walk-in coolers and freezers, several upright freezers (the largest is 135 cu ft), and self-service cases for produce and frozen food.

* * *

THE IRAQI PORTS ADMINISTRATION, Basra, has postponed to July 9 the bid deadline on tender No. 33/61 for supply and erection of an air conditioning plant for the new port hospital at Margil, Basra. A copy of specifications is available on loan from the Trade Development Div., Bureau of Foreign Commerce, U. S. Dept. of Commerce, Washington 25, D. C.

* * *

ADMIRAL CORP.'S over-all foreign and export sales continued to increase, according to the manufacturer's 1960 annual report. With the signing of two additional licensees, Admiral products now are being produced in 16 countries throughout the world and are sold in 110 countries, it was pointed out.

* * *

RHEEM MFG. CO. became a minority owner and partner of Isola, large Greek appliance manufacturer, with the purchase of 40% of newly-issued shares of Isola, it was announced by A. Lightfoot Walker, Rheem president, and George P. Dracos, Isola managing director.

The two executives said the investment "will further advance Rheem participation in the growth of the economies of Greece and other countries in Europe and the Middle East."

* * *

A. O. SMITH announced that its international subsidiary has acquired a 40% interest in Manufacturas Metalicas Monterrey, S. O., a Mexican producer of steel construction products and lighting poles. The Mexican concern will begin making Smith truck components this year and add other products "as the markets warrant."

* * *

R. S. Stevenson, president of ALLIS-CHALMERS MFG. CO., reported that overseas sales of the firm's products produced in the U. S. and Canada were 33% higher in 1960 than the year before.

"This approaches the all-time record in spite of the difficulties which we Americans run into—a tendency to price ourselves out of the world markets," he stated.

Stevenson said that the Allis-Chalmers program of adding factories outside North America was progressing according to plan.

"We find," he commented, "that the products of these plants provide satisfactory supplements to our domestic products, thus enabling us to maintain a strong world-wide sales organization. Besides that, the operations themselves earn an adequate return on their very modest capital investments, and are growing rapidly."

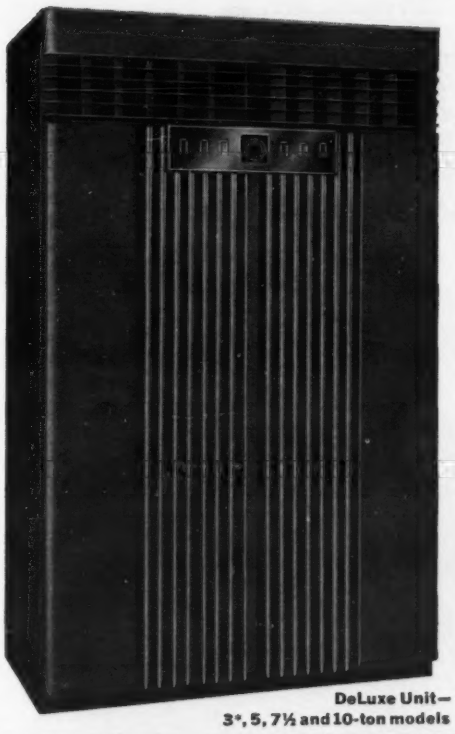
OR RESIDENTIAL-

NEW!

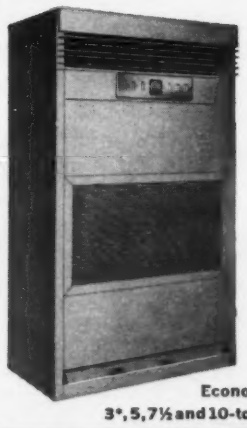
air-cooled models can be used on low ambient applications. The economy version of the 3, 5, 7½ and 10-ton units costs the dealer approximately 5% less, so he's ready to meet competition where price is the deciding factor. The mechanism is the same as the de luxe model, but the unit has a simpler grill.

*Available only in water-cooled type.

	3	5	7½	10	15	20
H	85¾	85¾	87¾	83¾	80	80
W	42	42	50	66	84	108
D	24	24	30	30	31¼	31¼



DeLuxe Unit—
3*, 5, 7½ and 10-ton models



Economy Unit—
3*, 5, 7½ and 10-ton models

AC-BR
Outside Unit
3 & 5-ton

RC-BR
Inside Unit
with Universal Blower

SPLIT SYSTEM

HEAT PUMPS

PACKAGED UNIT
ACPR 2, 3, 4 & 5-ton

SELF-CONTAINED PACKAGED UNIT

The ACP is a complete, self-contained air conditioner with high-capacity blower. It is designed for installation in attic, breezeway, utility room, basement, crawl space, through-the-wall or outdoors. 2, 3, 4 and 5-ton cooling capacity.

ACP

Get the data sheets and price lists on these units today—your American-Standard Air Conditioning Division Distributor has them. This distributor is a specialist—selected because of his experience, dependability and outstanding service facilities. He always maintains an adequate inventory of products for your needs, and he will deliver promptly. Call him today.

American-Standard and Standard® are trademarks of American Radiator & Standard Sanitary Corporation

AMERICAN-Standard
AIR CONDITIONING DIVISION

AMERICAN-STANDARD!

Type 202 Stainless Steel Passes Test

DR. GEORGE H. WATROUS, JR., associate professor of dairy manufacturing at The Pennsylvania State university, checks an experimental bulk milk tank that's served for more than 3½ years in the school's milk production center. The 205-gal., direct-expansion tank, made from Type 202 stainless steel rather than a traditional 18% chromium - 8% nickel grade, today "remains in perfect condition," says Dr. Watrous. Type 202 maintains almost the same properties as the 18-8 stainless steels, yet is more economical, according to Allegheny Ludlum Steel Corp., which supplied the stainless steel sheets to the fabricator, Groen Mfg. Co., Chicago.

Armour To Market Freeze-Dried Foods For Sportsmen

NEW YORK CITY—A line of freeze-dried foods designed primarily for campers, hunters, and other outdoor sportsmen will be distributed by Armour & Co., it was reported recently.

Distribution will be primarily through specialty shops catering to such markets and through a few supermarkets in the Pacific Northwest.

An indication of the cost of freeze-dried foods is given by the prices: $2.20 for two servings of beef steak, weighing 2 oz dried and 8 oz reconstituted (with water added again).

Because freeze-dried foods tend to oxidize faster than regular fresh products, Armour is using a special foil-laminated package to protect the new line.

Depreciation Rates, Practices Covered In NARGUS Survey

CHICAGO—The average retail food store building remains in use 31.1 years while its fixtures are used from 5.8 to 11.8 years, according to a survey recently completed by National Association of Retail Grocers of the United States.

Findings of the survey are published in the April issue of *NARGUS Bulletin*, official publication of the retail food store organization.

Purpose of the survey was to assist NARGUS members in determining a reasonable depreciation program and enable them to obtain a thorough knowledge of current industry practice. Some of the facts learned from the survey were:

● NARGUS members prefer simplified methods of depreciation, preferring the straight-line method by 3 to 1 over the more complicated computation methods of double declining and sum-of-the-years digits.

● More than half of the group surveyed want useful life of store fixtures and equipment pegged at 5 to 7 years.

● Less than 9% of the stores reflected salvage allowance on store fixtures and equipment.

● Retailers felt obsolescence and inadequacy of equipment should be the major element in determining economic life of equipment and facilities for depreciation computations.

Effective depreciation used by retailers was as follows:

	Average life years
Building—retail stores	31.1
Warehouse buildings	34.2
Parking area:	
Asphalt	10.1
Concrete	22.2
Other store components	11.8
Store fixtures and equipment	8.0
Shopping carts	6.2
Tools	5.8
Office equipment	9.2
Transportation equipment:	
Trucks and tractors	5.5
Trailers	6.3
Passenger cars	4.3
Warehouse equipment	7.9

Master-Bilt Plant Under Construction

NEW ALBANY, Miss.—Construction is under way here on a 72,000-sq ft building to be occupied by Master-Bilt Refrigeration Mfg. Co. of St. Louis.

Contracts totaling $322,805 were awarded relative to the building, which is being constructed under the Mississippi B.A.W.I. program, it was reported recently. When the building is completed in August, the company will employ about 100 persons for the production of refrigeration equipment including milk and egg coolers, the report said.

Mann Holds Open House

NEW YORK CITY—An open house to display the entire line of Bally ice cream display cases, meat cases, and walk-in coolers and freezers, was held by Mann Refrigeration Supply Co. here.

This company has been appointed the exclusive distributor of the complete Bally line for the Metropolitan New York area.

In addition, an arrangement has been worked out whereby the organization will act as exclusive world-wide export agents for Bally. This division of the business will operate under the name of Bally International, Inc.

CORRECTION

A story in the May 22 issue of the NEWS indicated incorrectly that Lawrence Stevens is general manager of U. S. Vending Corp., he has advised the NEWS.

Stevens pointed out that he resigned from that position last February and is presently the general manager of North American Vending Mfg. Corp., Floral Park, N. Y.

A proud past . . . a progressive future FRICK

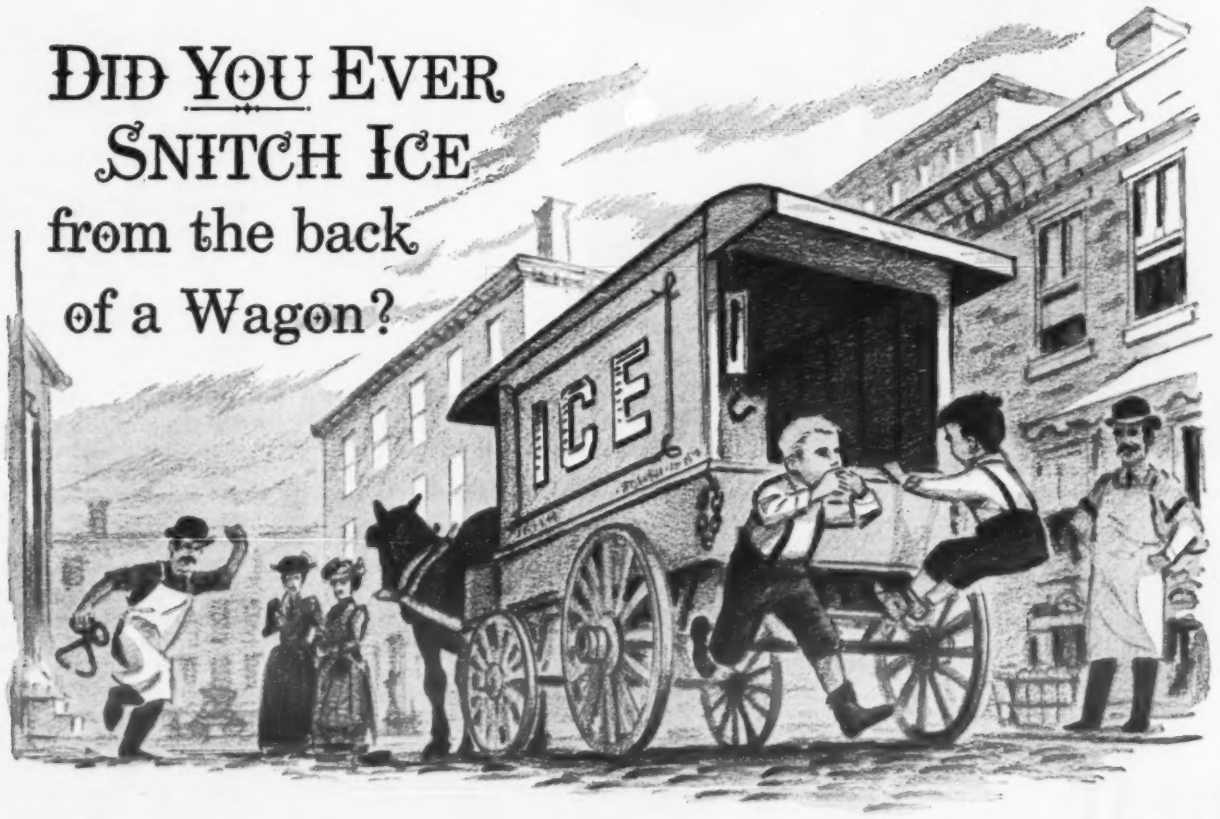
IF YOU EVER wore knickers, or spun wooden tops, or cheered for Babe Ruth . . . you probably did!

Even then, Frick could look back upon a proud past. The past included pioneering in the perfection of refrigeration systems. The advent of ice-making equipment. And always a guarantee that the equipment would work . . . and keep working.

But a good reputation is a continuing thing. And we intend to keep ours good—by continually improving both our products and our services.

From Frick you can expect changes in concept and design that will be as revolutionary as the first mechanical refrigeration systems were in their day. And advanced refrigeration equipment produced in Frick's progressive future will carry the same unqualified guarantee that is always a part of Frick equipment.

FRICK COMPANY, Waynesboro, Pennsylvania



another **FRICK** *cold storage installation*

The Southwestern Cold Storage Co. in El Paso, Texas, uses a complete custom-engineered Frick Refrigeration System for blast freezing and storage. Heavy duty compressors and an ammonia recirculation system provide dependable refrigeration for 60,000 pounds of fresh meat per day.

FRICK COMPANY, Waynesboro, Pennsylvania
FRICK OF CANADA, Ltd., 2085 City Councillors Street, Montreal, Quebec

Fedders Display Lets Prospect Try Out 77-Second Installation

MASPETH, N. Y. — A new 1961 Selling Center store display, designed to demonstrate Fedders 77-second installation system, is being made available to Fedders air conditioner dealers, the company has announced.

The free-standing Selling Center consists basically of three shelves. The top shelf demonstrates the "Climatimer" model. The second shelf, with simulated window track, sill, and moulding holds the standard Series 77 model, and the third shelf, with a standard metal casement window frame, holds the casement model.

The most appealing feature of the Selling Center, according to E. M. Becker, sales manager, is that "the customer may actually operate the 77-second flexible side panels and see for himself how easy and fast do-it-yourself installation of these units is." The three units on the Selling Center can, he noted, be plugged in and operating while demonstration is being made.

G-E 'Cooler Carnival' Helps Dealers Promote Room Coolers

LOUISVILLE, Ky. — General Electric Co.'s Room Air Conditioner Dept. has introduced details of its "Cooler Carnival" summer promotion to distributor and dealer personnel across the country.

Built around a circus theme, the Cooler Carnival includes promotion ideas, display materials, and premiums designed to call attention to advantages of the 1961 General Electric room air conditioners.

In addition to a 67-piece display package, there will be "carnival barker" outfits (which include a vest, Kentucky Colonel tie, sleeve garters, and skimmer hat) and a wide variety of circus-toy premiums available to participating dealers, it was pointed out.

To kick off the promotion, General Electric's Room Air Conditioner headquarters sent four teams of two men each to stage previews of the promotion to all distributor personnel. They reported enthusiastic reception and estimate that more than 4,500 dealers will participate by staging their own Cooler Carnival shows and displays during the coming summer.

Among the premiums which dealers can offer is "Frosty," a 15-in.-high stuffed toy dog whose collar dog tag can be removed to serve as a key chain.

A number is registered on the dog tag key chain, along with instructions to drop it in the nearest mailbox if found. Lost keys will thus be returned to the dealer who can, in turn, present them to his customer.

"At the store level considerable flexibility is built into the program not only because of the unusually large variety of display, advertising, and premium materials offered, but also because of the many special 'events' to which the carnival theme lends itself," the company said.

A list of suggestions for such events as clown and animal acts, special sales, and children's entertainment is included in the material for participating dealers.

Nationally, the Cooler Carnival promotion is being supported by advertising on the General Electric Theater. It will be mentioned on June 18, July 2, and July 16.

Gibson Stresses New Features To Users

GREENVILLE, Mich. — Tailored, local-market direct mail programs are now available to all Gibson dealers, according to Dale Heinlen, vice president - advertising, Gibson Refrigerator Sales Corp., subsidiary of Hupp Corp.

There are two basic series of jumbo direct mail cards, one promotes room air conditioners and the other covers "Frost Clear" refrigerators.

"The room air conditioner series is designed to be especially effective with present users —who are the best prospects for future room unit sales," the company pointed out. "It promotes new features not available two or three years ago when the prospects' present air conditioners were purchased."

Westinghouse Names Simon To Room Unit Engineering Post

COLUMBUS, Ohio — Thomas B. Simon has been named manager of room air conditioning engineering for the Major Appliance Div. of Westinghouse Electric Corp. He succeeds W. S. Reid whose new assignment will be announced later.

T. B. Simon

R. H. Tull, manager of product engineering for the Columbus plant, announced the appointment of Simon, who joined Westinghouse four years ago.

Heat Controller Appoints Sales Reps

JACKSON, Mich.—Heat Controller, Inc., has announced the appointment of several new sales representatives for its line of electric dehumidifiers and room air conditioners.

William Kennon, Atlanta, has been appointed representative for Georgia and northern Alabama; S. M. McKenzie, Cincinnati, for the southern Ohio territory; Robert S. Corrigan & Co., Bryn Mawr, Pa., for the eastern Pennsylvania territory; Feinman & Gottlieb, New York City, for the Metropolitan New York area.

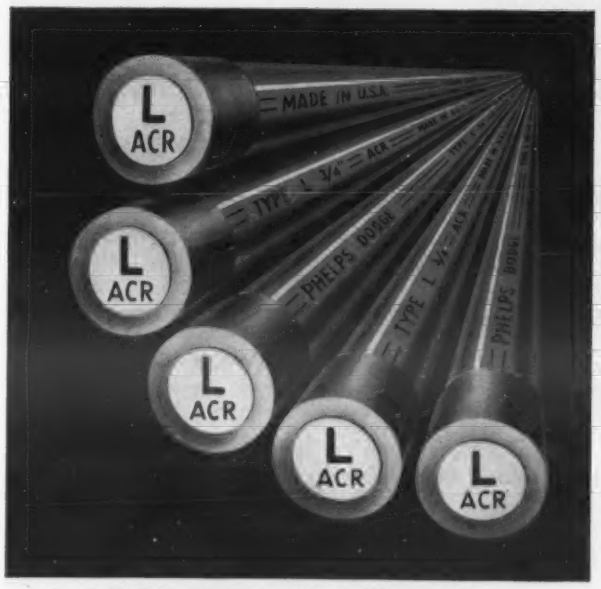
Also, L. S. Gershon & Co., Kansas City, Mo., for the Kansas territory; Floyd Yudelson Co., Los Angeles, for southern California; and O. B. Wilt, San Carlos, Calif., for northern California.

WHY YOU SHOULD SPECIFY

Phelps Dodge Copper Refrigeration Tube

The Famous Mine-to-Market Quality Line!

1 FINEST QUALITY CONTROL. Phelps Dodge refrigeration tube is carefully controlled for quality throughout fabrication, rigorously tested before being packaged to assure finest tube properties and lasting quality in service.



2 COLOR-CODED ACR TUBE. Phelps Dodge ACR tube is specially cleaned for refrigeration use. Extra-long coded end caps are your assurance of factory-clean tube at job site. Tube is color coded "ACR" for your protection.

3 NEW P-D PAK CARTON. Reel-type design of convenient new carton allows tube to be rolled or paid out quickly on job. Color-coded identification tape seals carton for protection, makes opening easy.

Quality tube sold the quality way—through authorized refrigeration wholesalers!

ASSOCIATE MEMBER

PHELPS DODGE COPPER PRODUCTS CORPORATION

New York, N.Y. • Los Angeles, Calif.

MINE TO MARKET

Portable Air Conditioner Solves Gas Turbine Engine Test Problem

PHOENIX, Ariz. — A reportedly unique portable air conditioner performs an unusual industrial process function at Garrett Corp.'s AiResearch Mfg. Div., large producer of small gas turbine engines in the 30 to 1,000-hp class.

The unit was designed by AiResearch engineers to solve the problem of inlet temperature control in testing gas turbine engines in the intense summer heat at Phoenix.

Inlet temperatures for the turbines during development and performance tests must be maintained at AiResearch's standard sea level day figure of 60°F (the ambient temperature condition on which their turbine performance data are based), even when outside summer temperature may hit 110°.

The problem was solved with a cart-mounted air conditioning unit which can be moved by hand from test cell to test cell as required. This permits concentrated air temperature control right at the spot where it is needed and avoids the high power penalty that would be paid were each individual test cell equipped to control its own inlet temperature.

The air conditioning unit is made up of an AiResearch air-driven cooling turbine assembly in combination with American-Standard equipment: a package motor-fan unit, a chilled-water coil unit and an air-to-water type heat exchanger.

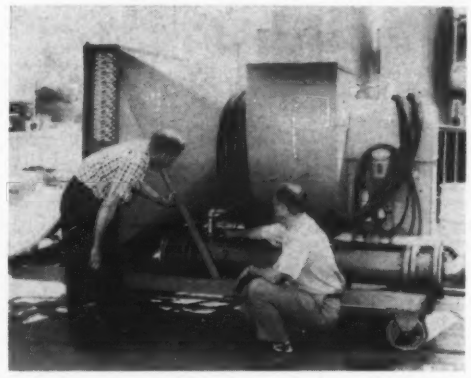
"The system is divided into two sections," it was explained. "One section consists of the American-Standard fan assembly and coil unit. The fan draws ambient air across the cooling coil, which is provided with water from a cooling tower. This part of the system produces 90° air.

"The other section consists of the AiResearch compressor and turbine, which are driven on a common shaft and rotate at high rpm, and the American-Standard heat exchanger. Refrigerated plant air at 70° is ducted into the compressor section of the cooling turbine where it is compressed, resulting in a temperature increase.

"The compressed air, at approximately 340°, is then ducted through the air-to-water heat exchanger, which is provided with water from the same cooling tower that supplies the cooling coil. The heat exchanger cools the compressed air at approximately 130°.

"When the air is passed through the turbine portion of the AiResearch equipment, it is expanded. The expansion is accompanied by a drop in temperature, resulting in an air temperature of -65° at atmospheric pressure.

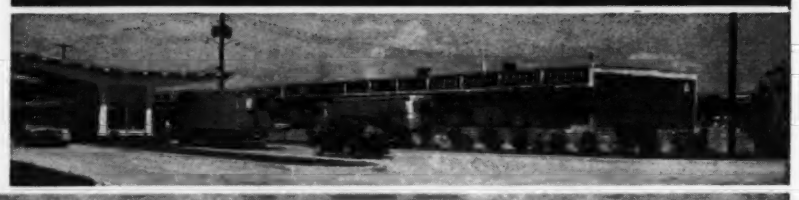
"When the low temperature air from Section 2 is mixed with the 90° air from Section 1, the result is the required 60° inlet air temperature for turbine testing."

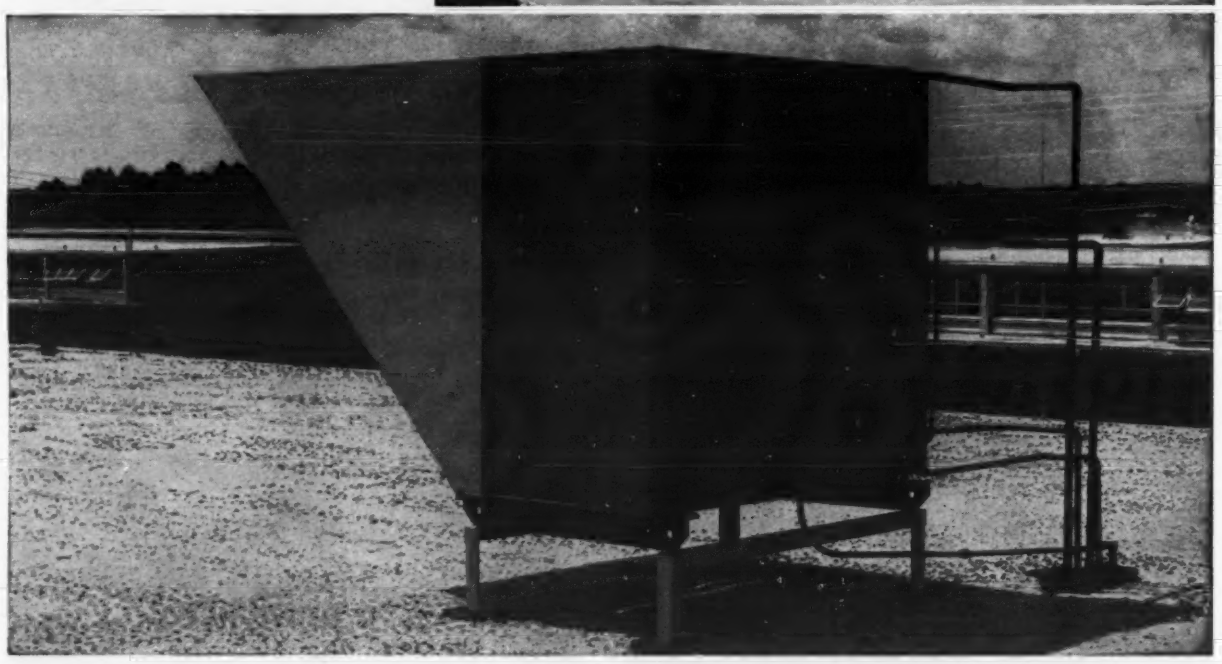


PORTABLE AIR CONDITIONER is made up of AiResearch cooling turbine assembly in combination with American-Standard coil section, fan, and air-to-water heat exchanger.

WORLD'S LARGEST FARMERS MARKET USES

LARKIN ZEPHYRCONS





BFC-16 on guard—one of more than 50 Larkin Zephyrcon Air-cooled Condensers at the Georgia State Farmers Market. A full range of both FCs and BFCs are used, many with multiple circuits.

Value-Packed Features

- Direct-drive FC models—for economy and easy maintenance.
- Belt driven BFC models—for larger installations, lowest noise level.
- Patented Larkin cross-fin coil—aluminum fins and staggered copper tubes.
- For use indoors or outdoors.
- A single large fan on BFC model assures low operating noise level.
- Motor on BFC model is standard NEMA design mounted on adjustable base.
- Slow speed motor on FC model is permanently lubricated, has overload protection, and is mounted on resilient base.
- Casing is of heavy-gauge steel.
- Unit finished with baked-on epon-base primer and melamine top coat for maximum protection.
- Motor is enclosed in casing, protected from the weather.
- Discharge shield available.
- Fan guard is standard equipment.
- Return bends protected by heavy-gauge shield.

At the world's largest farmers market the products are protected from the ravages of hot weather with the help of Larkin Zephyrcon Air-Cooled Condensers. More than 50 Zephyrcons provide ample condensing capacity for the big market's refrigeration systems which employ over 200 Larkin high and low temperature humi-temps.

See your wholesaler
or write for Bulletin 1031-C

WATCHDOG OF THE NATION'S FOOD AND COMFORT • LARKIN •

LARKIN COILS INC.

519 Memorial Drive, S.E. • P. O. Box 1699 • MUrray 8-3171

ATLANTA 1, GEORGIA

G-E's Largest

Gas-Cooled Hermetic Motor Goes to Trane For Industrial Job

SCHENECTADY, N. Y.—The largest gas-cooled hermetic motor ever built by the General Electric Co. has been delivered for application in an industrial air conditioning system.

General Electric's Medium A-C Motor & Generator Dept. said that the unit was the first of four ordered from the department by The Trane Co. of La Crosse, Wis.

The induction type motor, which will be used in the Trane "CenTraVac" centrifugal refrigeration system, develops more than 900 hp at 3,600 rpm. Hermetic motors incorporate special materials assembled under rigid manufacturing standards to permit their operation in isolated refrigerant gas atmospheres, it was noted.

General Electric marketing officials said the unit built for Trane marked the extension of G-E's gas-cooled hermetic motor line into the 1,000-hp range, and keeps General Electric in step with the trend toward larger-capacity equipment in the air conditioning industry.

Engineers at the Medium A-C Motor & Generator Dept. pointed out that the motor is designed for 2,400-volt operation, and utilizes a special hermetic high-voltage insulation system developed by General Electric.

Henry Wendt Retires As Active Executive At Buffalo Forge

BUFFALO—Henry W. Wendt, chairman of Buffalo Forge Co. since 1929, has retired as an active executive of the company with which the Wendt family has been associated for 83 years.

Although he is bowing out as an active executive, he said he will retain the position of chairman so that his family doesn't lose its identity with the company.

His retirement as an active executive comes 2½ years after the retirement of his brother, Edgar F. Wendt, as president of Buffalo Forge.

'Not a Promotion Idea'

Morrison President Defends 10% Price Cut In Letter to Kalamazoo Bureau

Page One of our Feb. 6, 1961, issue carried a story on the decision of Morrison Steel Products Co. to reduce prices in answer to President Kennedy's call for union's and management's holding the line on wages and prices. The Kalamazoo (Mich.) Indoor Comfort Bureau, Inc. took exception to this action by the heating manufacturer and wrote the company. The bureau's letter was published in the NEWS on June 5.

Here is President I. Morrison's reply to the Kalamazoo Indoor Comfort Bureau:

Morrison Steel Products, Inc.
601 Amherst St.
Buffalo 7, N. Y.

Kalamazoo Indoor Comfort
Bureau, Inc.
Kalamazoo, Mich.
Attn: Mr. Glen W. Rynbrand

Gentlemen:

I received your letter of the 11th and note its contents with some regret. Apparently, sir, you haven't taken the time necessary to investigate us to find out if all the statements you have made are completely so. In fact, in your first paragraph you say that what Morrison has done "appears" to you to be only a promotion idea.

May I please take your time to explain just a little bit about Morrison and ask if it would be possible for you or one of your associates to come to Buffalo at our expense so that we may prove to you that we have in all honesty and sincerity tried to do a job for the furnace industry.

- No. 1 The reduction in price was really a *real* reduction of 10%. We did this honestly and across the board—no faking, no promotional idea or anything else.
- No. 2 We have improved the quality of our furnace and the engineering of our furnace so that it is as trouble free as any furnace can possibly be, and can be very easily serviced by any dealer throughout the country with a minimum of tools.
- No. 3 We have visited with the National Warm Air Htg. and Air Conditioning Assn., and outlined our program to them and asked if there was anything more in their opinion that we could do.
- No. 4 We have rejected any dealer or installer of furnaces as handling our unit who is not part of the Silver Shield System or if there is no Silver Shield available in an area to see that he complies with installation specifications as outlined by the Nat'l Warm Air Htg. & Air Conditioning Assn.
- No. 5 We have in every case, in testing our furnaces come up with a minimum of 80% efficiency in the operation of our unit.

I have read your Kalamazoo Story, and, as a matter of fact, commented on this story to the manager of the Natl. Warm Air Htg. & Air Conditioning Assn., in Cleveland. I think you are doing a remarkable job. I have used your story in the Buffalo area for the Silver Shield group here and I hope you will note that Mr. Bert Weigel of Buffalo was scheduled to speak at the Association meeting held just a week ago.

We do not wish to challenge you or any other person who is the man who is directly on the firing line. We ask your indulgence in only one thing—won't you please give Morrison a fair chance and look at our equipment and see whether or not Morrison is giving a dollar's worth of merchandise for its product. We are still far from being the lowest priced furnace on the market and in fact we never intend to be. We hope that our dealers and installers are those who will make a profit from handling our equipment because once the installation is done, we hope that they will hear nothing but favorable comments from the homeowner.

I will be very anxious to hear your comments about Morrison and what it can do further to help the heating industry.

Most sincerely yours,
I. MORRISON,
President

API Selects 5 Groups For Research Projects

NEW YORK CITY — The American Petroleum Institute has selected five organizations to work on the principal projects of a special oil burner research program, A. J. Rumoshosky, director of the institute's Marketing Div., announced recently.

The names of the research groups, and the projects on which they will work, are:

Armour Research Foundation, Chicago: air-fuel mixing and recirculation.

Arthur D. Little, Inc., Cambridge, Mass.: new means for fuel atomization.

Atlantic Research Corp., Alexandria, Va.: ways to minimize deposits during vaporization of No. 2 heating oil.

Battelle Memorial Institute, Columbus, Ohio: more suitable ignition systems, air compressors, and fuel pumps for small oil burners.

Stanford Research Institute, Menlo Park, Calif.: the effects of spray-droplet size on combustion.

The purpose of the research program, Rumoshosky said, is to develop, interpret, and disseminate new technical information that will assist equipment manufacturers in producing improved equipment using distillate fuel. All research findings will be dedicated to public use, he said.

G-E Names Ross

LOUISVILLE, Ky. — Wallace Ross has been named northwest region electric heating specialist for General Electric's Electric Comfort Heating Section, it was announced by Robert D. Graham, section manager.

NEW! FROM MUELLER BRASS CO.

Streamline® ONE-PIECE SUCTION-LINE P-TRAPS

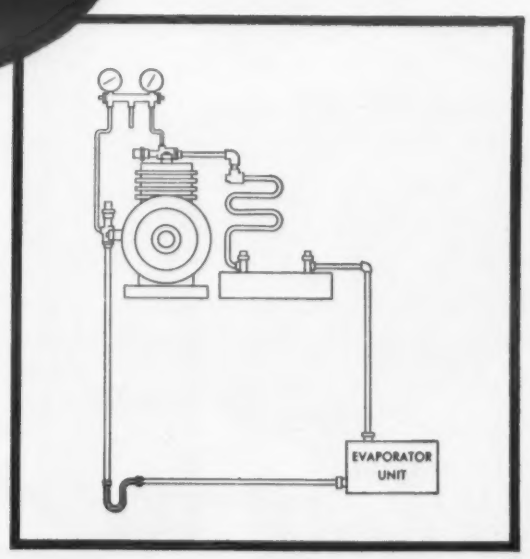
FOR EFFICIENT OIL MIGRATION IN REFRIGERATION AND AIR-CONDITIONING SYSTEMS*...

Streamline wrot-copper suction-line P-Traps, just introduced by Mueller Brass Co., answer a definite demand for an effective method of promoting efficient oil migration in modern refrigeration systems. Today, for example, in many large food markets and other outlets employing refrigeration, compressors and condensers are installed on balconies. Such remote units are likely to have long horizontal suction lines or vertical risers exceeding 3' in height which create the problem of unsatisfactory oil return to the compressor. The installation of a Streamline Suction-Line P-Trap quickly and effectively eliminates this problem because the P-Trap drains the oil from the horizontal runs approaching the risers; the oil then migrates back to the compressor, either as a rippling oil film, a mist, or a transparent colloidal dispersion. Vapor velocity can fall as low as 160 feet per minute and satisfactory oil return can still be achieved when a Streamline P-Trap is installed.

* The need for, and the effect of P-Traps on systems having long horizontal suction lines or vertical risers, is fully discussed in Section 66 of the R.S.E.S. Service Manual.

ONE PIECE DESIGN
SAVES LABOR AND MATERIALS

The new Streamline P-Trap replaces the cumbersome assemblies of individual fittings with one piece of seamless copper tube, thereby reducing the high costs of labor and materials. The P-Trap is manufactured in 3 popular O.D. sizes; ⅞", 1⅛" and 1⅜", and is ready to be soldered into the line. Use this handy P-Trap in your next installation. Your wholesaler has them in stock. For further information, send for Product Data Sheet No. 14.



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MUELLER BRASS CO. PORT HURON 13, MICHIGAN

VAMPCO ALUMINUM PRODUCTS, LTD., STRATHROY, ONTARIO • Exclusive Canadian Representative for Mueller Brass Co. • Air Conditioning and Refrigeration Products

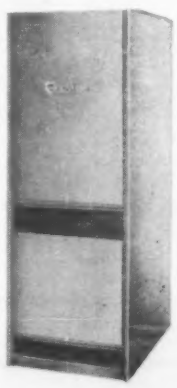
Plant Vacation Schedule

Shutdowns Starting July 3 or Earlier

This is the second in a series of handy guides to summer vacation or inventory shutdown schedules announced by manufacturers. It is published to help salesmen avoid useless calls and to assure purchasing departments of adequate stock on hand. CLIP and SAVE for future reference.

Company	Shutdown Plant	Period Office	Shipments From Plant
Amana Refrigeration, Inc., Amana, Iowa	6/30-7/17	6/30-7/17	Emergency, Stock Only
Bundy Tubing Co., Detroit.	6/30-7/4	Open	None
Champion Blower & Forge Co., Inc., Lancaster, Pa.	6/30-7/17	Open	
Gloekler Refrigerator Co., Erie, Pa.	6/30-7/9	6/30-7/9	None
Metals & Controls, Inc., Div., Texas Instruments, Inc., Attleboro, Mass.	6/30-7/16	Open	Emergency
Micro Switch Div., Minneapolis-Honeywell Regulator Co., Freeport, Ill.	6/30-7/16	6/30-7/16	Emergency
Milford Rivet & Machine Co., Milford, Conn. (All plants).	6/30-7/16	6/30-7/16	None
Morrison Steel Products, Inc., Buffalo.	6/30-7/16	Skeleton	Regular
National Lock Co., Rockford, Ill.	6/30-7/7	Open	None
New York Blower Co., Chicago.	6/30-7/16	Open	Emergency, Stock Only
Penn Controls, Inc., Goshen, Ind.	6/30-7/16	6/30-7/16	Emergency, Stock Only
Pyramid Instrument Corp., Lynbrook, N. Y.	6/30-7/16	Open	Stock Only
Savage Ice Cream Cabinet Div., C. V. Hill & Co., Inc., Trenton, N. J.	6/30-7/9	6/30-7/9	Scheduled Only
Thermo Products, Inc., North Judson, Ind.	6/30-7/16	Open	Regular
H. W. Tuttle & Co., Tecumseh, Mich.	6/30-7/16	Open	Emergency
Viking Air Products, Div. of Lau Blower Co., Cleveland.	6/30-7/16	Open	Emergency
Warren Webster & Co., Inc., Camden, N. J.	6/30-7/16	6/30-7/16	Emergency
American Furnace Co., St. Louis.	7/1 -7/16		Regular
Brookside Corp., McCordsville, Ind.	7/1 -7/9	7/1 -7/9	Emergency
Chase Brass & Copper Co., Inc., Cleveland.	7/1 -7/17		Regular
Gem Refrigerator Co., Philadelphia.	7/1 -7/8		Stock Only
General Controls Co., Glendale, Calif.	7/1 -7/9	Open	Emergency
General Machine & Mfg. Co., Berwick, Pa.	7/1 -7/16	7/1 -7/16	Regular
Gibson Refrigerator Div., Hupp Corp., Greenville, Mich.	7/1 -7/16	Open	Regular
Herman Nelson Div., American Air Filter Co., Inc., Morrison, Ill.	7/1 -7/9		Emergency
Iron Fireman Mfg. Co., Cleveland.	7/1 -7/16	Open	Emergency
Kinney Vacuum Div., New York Air Brake Co., Boston.	7/1 -7/16	Skeleton	Emergency, Stock Only
Mammoth Furnace Co., Minneapolis.	7/1 -7/16	Skeleton	Emergency
Minneapolis-Honeywell Regulator Co., Minneapolis.	7/1 -7/17	Open	Emergency
Silent Automatic Products, Cleveland.	7/1 -7/16	Open	Emergency
Taco Heaters, Inc., Cranston, R. I.	7/1 -7/15	Skeleton	Stock Only
Tenney Engineering, Inc., Wilmington, N. C.	7/1 -7/9		Stock Only
Dunham-Bush, Inc., Michigan City, Ind.	7/2 -7/16		Emergency
H & H Tube & Mfg. Co., Detroit.	7/2 -7/16		None
The King Co., Owatonna, Minn.	7/2 -7/15	Open	Stock Only
American-Standard Air Conditioning Div., New York City.	7/3 -7/14	Open	Regular
Bacharach Industrial Instrument Co., Pittsburgh.	7/3 -7/16		Regular
Bard Mfg. Co., Bryan, Ohio.	7/3 -7/16	7/3 -7/16	Emergency
Beverage-Air Sales Co., Spartanburg, S. C.	7/3 -7/7	Open	Regular
Flexible Tubing Corp., Guilford, Conn.	7/3 -7/9	7/3 -7/9	Stock Only
Fram Aire Corp., Providence, R. I.	7/3 -7/14	Open	Regular
Furnas Electric Co., Batavia, Ill.	7/3 -7/17	7/3 -7/17	Emergency
HERRmidifier Co., Lancaster, Pa.	7/3 -7/7	7/3 -7/7	None
Kason Hardware Corp., Brooklyn.	7/3 -7/14	7/3 -7/14	None
Lehigh Mfg. Co., Easton, Pa.	7/3 -7/9	7/3 -7/9	Emergency
Mechanical Industries Production Co., Akron, Ohio.	7/3 -7/15	Open	Stock Only
John J. Nesbitt, Inc., Philadelphia.	7/3 -7/17	Open	Stock Only
Nibco, Inc., Elkhart, Ind.	7/3 -7/16	Skeleton	Emergency
Revere Copper & Brass, Inc., Baltimore; Los Angeles; Rome, N. Y.; Clinton, Ill.	7/3 -7/16		Stock Only
Wing Mfg. Co., Div. of Aero Supply Mfg. Co., Linden, N. J.	7/3 -7/14	Open	Stock Only

PRIDE OF OWNERSHIP starts early...lasts a lifetime! You understand it. So do your customers. It represents the **satisfaction** that comes from owning a prized possession...one that represents the best efforts of its maker. **PEERLESS** furnaces and air conditioning equipment have earned that kind of customer appreciation. And, it pays off for dealer, builder, contractor and home owner. Everyone appreciates and benefits from **quality.**



PEERLESS CORPORATION
1853 LUDLOW • INDIANAPOLIS, INDIANA

✻ **NOW** 4 locations to better serve the growing family of Peerless customers

INDIANAPOLIS INDIANA | DOWAGIAC MICHIGAN | ATLANTA GEORGIA | TAMPA FLORIDA

These Plants Are Staying Open

The following plants have informed the NEWS that they follow staggered vacation schedules or have no plans for closing at any time during the summer. Companies marked with * will close for vacation or inventory in the fall or winter. Dates will be given later.

(Continued)

Barry Blower Co., Minneapolis.
Bohn Aluminum & Brass Corp., Adrian, Mich.
Burnham Corp., Warm Air & Cooling Div., Belle Vernon, Pa.
Coleman Co., Inc., Wichita, Kan.
E. D. Goodfellow Co., Inc., Memphis.
Gustin-Bacon Mfg. Co., Kansas City, Mo.
Governair Corp., Oklahoma City.
Greenheck Fan & Ventilator Corp., Schofield, Wis.
Hastings Air Conditioning Co., Inc., Hastings, Neb.
Havens Cooling Towers, Kansas City, Mo.
Heil Process Equipment Corp., Cleveland.
Henry Valve Co., Melrose Park, Ill.
Highside Chemicals, Inc., Clifton, N. J.
Holly-General Co., Pasadena, Calif.
Howard Industries, Inc., Racine, Wis.
Howe Ice Machine Co., Chicago.
Hudson Industries, Inc., Detroit.
Ideal Cooler Corp., St. Louis.
***International Automotive Air Conditioning, Inc.,** Ft. Lauderdale.
International Oil Burner Co., St. Louis.
Jamison Cold Storage Door Co., Hagerstown, Md.
Jarrow Products, Inc., Chicago.
Kari-Kold Co., Grand Rapids.
Karmazin Products Corp., Wyandotte, Mich.
Keith Furnace Co., Des Moines, Iowa.
Kennard Div., American Air Filter Co., Inc., St. Louis.
Kohlenberger Engineering Corp., Fullerton, Calif.
Lewin-Mathes Co., St. Louis.
Lima Register Co., Lima, Ohio.
Lindustries, Inc., Fort Worth, Texas.
David A. Lingle Refrigerators, Russellville, Ark.
Madden Brass Products Co., Aurora, Ill.
Majestic Co., Inc., Huntington, Ind.
McQuay, Inc., Minneapolis.
Mechanical Refrigeration Enterprises, N. Hollywood, Calif.
Microtron Corp., Charlotte, N. C.
Minerallac Electric Co., Chicago.
Modine Mfg. Co., Racine.
Morrison Products, Inc., Cleveland.
J. W. Mortell Co., Kankakee, Ill.
Muncie Gear Works, Inc., Cordele, Ga.
National Heater Co., Inc., St. Paul, Minn.
***National Thermatic Corp.,** Houston.
Nord Hermetic Co., San Leandro, Calif.
Nor-Lake, Inc., Hudson, Wis.
Parks-Cramer Co., Fitchburg, Mass.
Peerless of America, Inc., Chicago.
Peerless Corp., Indianapolis.
Peerless Products Co., Bonair Div., Philadelphia.
Peerless Pump Hydrodynamics Div., Los Angeles.
Perlick Co., Inc., Milwaukee.
Precision Heat Exchanger Co., Inc., Westwood, N. J.
Pyle-National Co., Chicago.
Ready-Power Co., Detroit.
Recold Corp., Los Angeles.

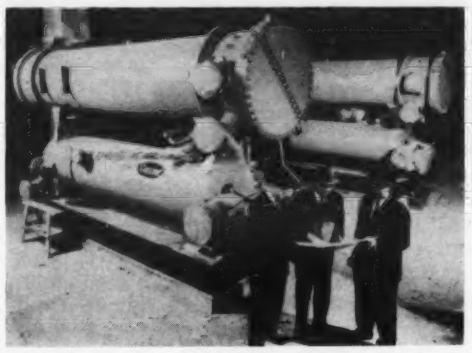
(To Be Continued)

Heat Pump In New Industrial Building Uses Interior Heat To Warm Outer Areas

MILWAUKEE — Installation of what is claimed to be the world's largest heat pump system, which will use heat generated by people, lights, and business machines to warm office areas, was begun recently in the Allen-Bradley Co.'s new $15 million headquarters and research center here.

The heat pump system consists of three large-capacity electrically-powered refrigerating machines each weighing about 20 tons. Built by Carrier Air Conditioning Co., the machines will be used in summer to provide chilled water for cooling the eight-story structure.

In winter, the same machines will remove excess heat from interior spaces so it can be used to warm areas next to outside walls. No boilers or other fuel-burning devices are required, according to George H. Volk, Milwaukee consulting engineer who designed the system.



CHECKING DRAWINGS before the 1,400-ton heat pump system in the new Allen-Bradley headquarters and research center are (l. to r.) George H. Volk, Milwaukee consulting engineer who designed the system; Walter S. Freeburg, Allen-Bradley plant engineer; and Jack L. Archie, Carrier sales engineer.

Volk explained that in cold weather, excess heat must be removed from inner spaces in the block-type building because it cannot escape through windows and walls to the outside.

He added that enough extra heat is generated by people, lights, and machines in the interior area to warm the whole building and even provide a surplus for nights, weekends, and holidays. Excess heat will be stored in water in two 75,000-gal. tanks.

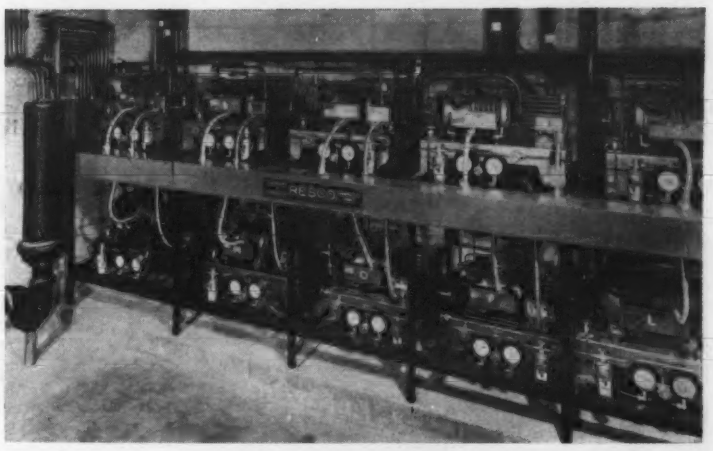
"The result," Volk said, "is an economical year-round air conditioning system controlling temperature and humidity."

Each of the three heat pumps consists of three main parts, compressor, cooler, and condenser, which were shipped by rail from Carrier headquarters in Syracuse, N. Y.

They were brought to Allen-Bradley's new building by truck by the Price Erecting Co. and installed in the basement for assembly by Thomas E. Hoye Heating Co., mechanical contractor.

In operation, the heat pump system will have a cooling capacity of 1,400 tons, according to Jack Archie, engineer in Carrier's district office here.

Nearly 2,000 employes of the electrical controls manufacturer will work in the building when it is completed this spring. The structure was designed by Fitzhugh Scott, local architect.



Works Every Show

THESE Brunner-Metic condensing units provide temperature and humidity control to protect the enormous quantities of food needed to serve 1,800 people an hour in Chicago's McCormick Place Lakeside Cafeteria, plus a full service dining area seating 650 along President's Walk, and several portable snack bars located throughout the building that boasts more than 310,000 sq ft of exhibition area. Resco Refrigeration Service, Inc., Chicago, was the refrigeration contractor and A. Gatz Supply Co., the refrigeration wholesaler.

McQuay 1st Quarter Sales Second Highest

MINNEAPOLIS — Net sales of McQuay, Inc., declined to $3,822,599 in the first quarter of 1961 as compared with $5,412,853 in the first three months of 1960, but were still the second highest in the history of the company, exceeding those sales of $3,670,267 in the first three months of 1959, the company reported.

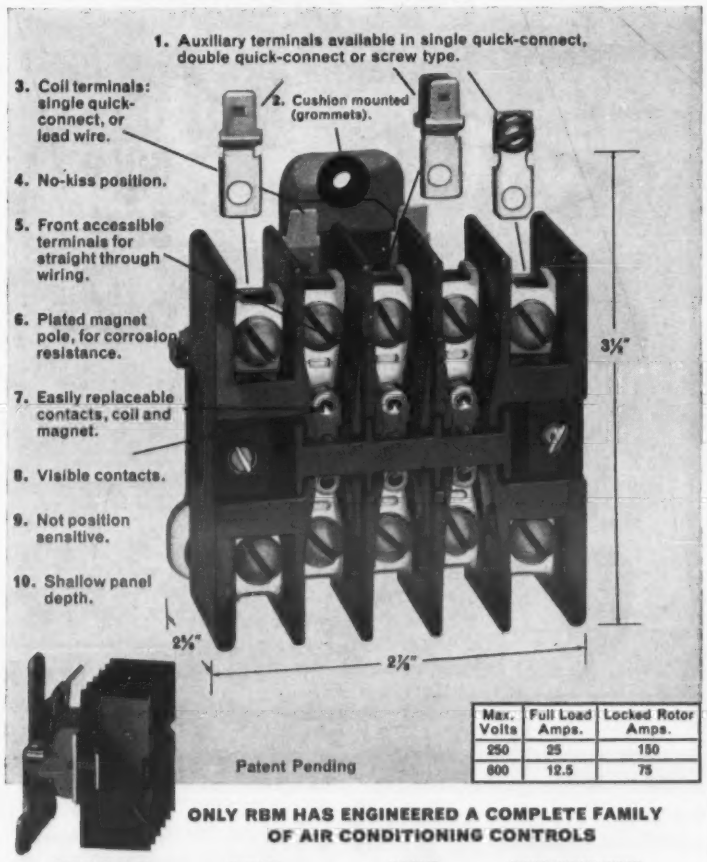
Net income for the period was $102,709 compared with $158,450 in the first quarter a year ago. This amounted to 24 cents a share on 418,932 shares of common stock outstanding on March 31, 1961, compared with 39 cents a share on the 386,836 shares outstanding March 31, 1960.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

NEW RBM
25 AMP — 2 AND 3 POLE
CONTACTOR
TYPE 85
DESIGNED FOR UL AND CSA LISTING

Simplifies panel circuitry — helps eliminate terminal boards — cuts wiring costs.

Here is the first air conditioning contactor designed so auxiliary terminals can be added to power wiring terminals. Also, extra dummy wiring terminals can be added when required. Such flexibility can help eliminate terminal boards, lower wiring costs, and provide more versatile and simplified panel circuitry. Auxiliary terminals can be #8 screw or ¼" single or double quick-connect. Dummy terminals are #10 screw with or without the auxiliary terminals. Consult your application engineer or write for Bulletin C16.


1. Auxiliary terminals available in single quick-connect, double quick-connect or screw type.
2. Cushion mounted (grommets).
3. Coil terminals: single quick-connect, or lead wire.
4. No-kiss position.
5. Front accessible terminals for straight through wiring.
6. Plated magnet pole, for corrosion resistance.
7. Easily replaceable contacts, coil and magnet.
8. Visible contacts.
9. Not position sensitive.
10. Shallow panel depth.
3¼"
2⅝"
2⅝"
Patent Pending

Max. Volts	Full Load Amps.	Locked Rotor Amps.
250	25	150
600	12.5	75

ONLY RBM HAS ENGINEERED A COMPLETE FAMILY OF AIR CONDITIONING CONTROLS

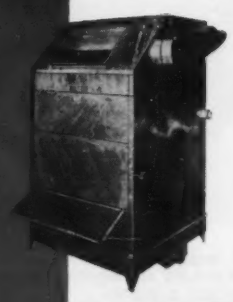
TYPE C-30, C-40, C-50 CONTACTORS Write for Bulletin 1070
TYPE 80 CONTROLLER Write for Bulletin C-11
TYPE 75 POWER RELAY Write for Bulletin 1030.
SERIES 129000 SHUNT TYPE RELAY—SPNO, SPNC OR NO-NC Write for Bulletin 1010-A.
GENERAL PURPOSE RELAY Write for Bulletin 1060
SERIES 128000 POTENTIAL STARTING RELAYS Write for Bulletin 1010-A
BIMETAL TIME DELAY RELAYS AND THERMO-STATIC DEVICES Write for Bulletin C-15
ENCLOSED BANTAM RELAY TYPES 83 & 84 Write for Bulletin 1080

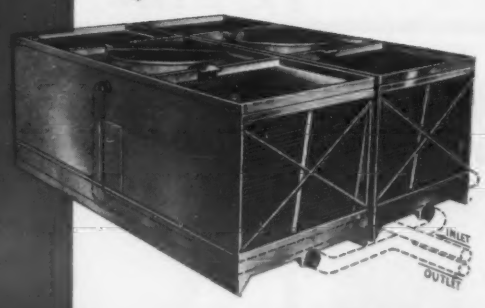
"Controlling the Future"
RBM CONTROLS DIVISION
ESSEX WIRE CORPORATION, LOGANSPORT, INDIANA
Factories Located at North Manchester and Logansport, Indiana

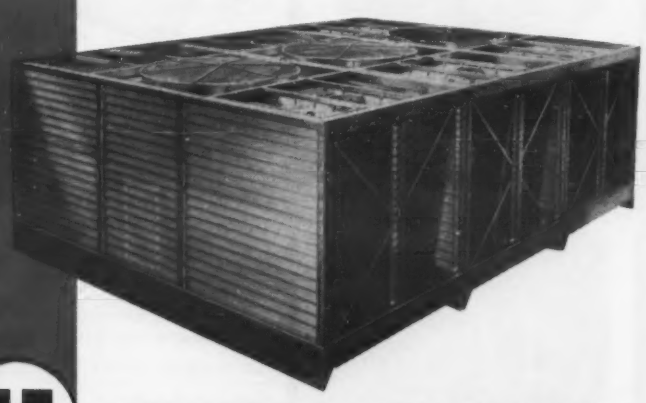
Havens COOLING TOWERS

PERFORMANCE PROVEN for
- AIR CONDITIONING
- REFRIGERATION
- INDUSTRIAL PROCESSES

FEATURING QUALITY AND LONG LIFE







Havens COOLING TOWERS
DIVISION OF HAVENS STRUCTURAL STEEL COMPANY
1713 CRYSTAL AVE., KANSAS CITY 26, MISSOURI

Customer Service and Brand Loyalty Emphasized by Little Rock Wholesaler

The June 5 NEWS described the "Unconditional Performance Guarantee" offered to its dealers and their customers by 555 Air Conditioning & Heating Div., a Fedders distributor. This division also operates as a refrigeration wholesaler, and this is a report on the jobbing function of the division.

NEAT DISPLAYS spur impulse buying at 555's new location. Beyond the display area and counter room is a large meeting room with heating and cooling equipment on display.

By Frank J. Versagi

LITTLE ROCK, Ark. — "In the rush season, everybody except the three girl clerical workers works on the counter. At such times, nothing is as important as satisfying the needs of the serviceman-customer, thus keeping air conditioning and refrigeration owners comfortable and happy," says Harry Tschumi, Jr., vice president of 555 Air Conditioning & Heating Div.

This same regard for both the serviceman and the serviceman's customer causes Tschumi to do things which other wholesalers are sometimes reluctant to do. An example: taking a serviceman's word for it that a supply item he brought in for replacement is in-warranty, rather than having the serviceman wait "while we go through all the routine of contacting the manufacturer, pushing all the paper around, and the rest."

So long as the wholesaler knows what he is doing, Tschumi feels, he can't get hurt by putting the serviceman's needs first. "We move several hundred expansion valves a year, for example. Probably six or seven come in for replacement. How badly can we get hurt if one of these happens not to be a legitimate exchange? And if one is, isn't it a small price to pay for customer relations, for promotion of the concept that our customers come first?" asks the vice president.

Loyalty to Manufacturer-Suppliers

Tschumi extends this loyalty in the other direction, too, towards his manufacturer-suppliers. "We take a long time to decide on a line," Tschumi admits, "but once we decide on it, we give it all we've got in sales efforts."

Tschumi cites driers as an example. "Occasionally one manufacturer or another strikes the industry's fancy with a new concept in driers. When this happens, we don't just fall in line with the new idea. We study it. If we are convinced that our line is still equal to the new type, or if our supplier comes out with a comparable drier, we stay with our original supplier."

555 has actually gone through this experience with driers. By insisting that his force learn about and sell the line in stock, Tschumi has watched the volume of drier sales climb steadily.

Another instance: 555 handles only duPont's refrigerant, "Freon." It is more usual for a refrigeration wholesaler of 555's size to handle two, three, even all four brands of refrigerant. But Tschumi believes in brand loyalty. "I don't think it is coincidental that the better refrigeration servicemen in this area also have brand loyalty on many items; they come in and want this control or that drier or those valves, and none other."

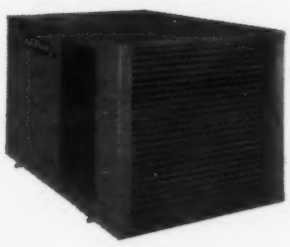
555's vice president thinks the day will come when refrigeration wholesalers will merchandise selected brands in an area, rather than handling several brands. He foresees that in a city with four jobbers, say, each will handle one refrigerant. selected driers, one major line of controls.

Sees No Need for Automated Accounting

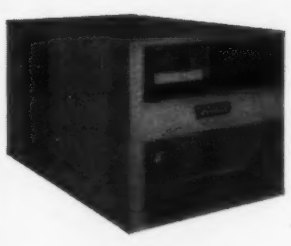
While the company's volume is in six figures, and while it employs over 20 employes, Tschumi has felt no need for automated accounting. "Kardex files, religiously kept, give us as accurate a picture as we need to

8 Welbilt solutions to countless air conditioning and heating problems

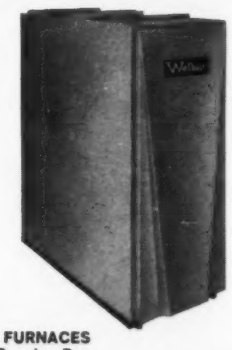
HORIZONTAL FURNACES
Oil or Gas Fired
Residential and Commercial



AIR COOLED CONDENSING UNITS
Model WRCA, 2–5 Ton

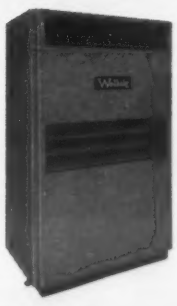


SELF CONTAINED
AIR COOLED AIR CONDITIONERS
Model ASP, 2–7½ Ton

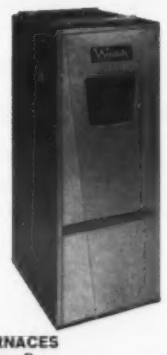


OIL FURNACES
Hi–Boy, Lo–Boy
Counter Flow, Residential and Commercial

AIR COOLED CONDENSING UNITS
Model WSCA, 7½–20 Ton



AIR CONDITIONERS
Models WAW & WAA For Duct Connection
Models WAW & WAA With Plenum,
3–35 Ton



GAS FURNACES
Hi–Boy, Lo–Boy
Counter Flow, Residential and Commercial

"A" EVAPORATOR COILS
Model WRE, 2–7½ Ton

Welbilt Air Conditioning and Heating Corp.
Farmingdale, New Jersey
(A Subsidiary of the WELBILT Corporation)
EXPORT: WELBILT INTERNATIONAL–Chrysler Building, New York, N. Y.

To: WELBILT Air Conditioning and Heating Corporation, Farmingdale, New Jersey
Please send me specifications and prices for the following equipment:_____

Name:_____ Title:_____

Firm:_____

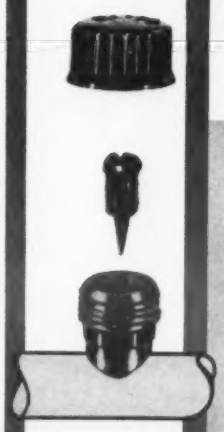
Address:_____ Telephone Number:_____

City:_____ State:_____ (zone)

Perfect, Permanent Installation...Every Time!

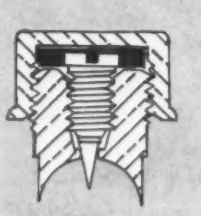
WITH THE WATSCo GOLD SEAL

ACCESS SADDLE VALVE



Here's the valve that does the job . . . Best! Provides a permanent leakproof port for testing, charging, and discharging.

This tube piercing Access Saddle Valve is contoured to fit and can be soldered or brazed to any convenient part of the tubing. Available in five sizes for ¼" to ⅝" O.D. TUBE.



U.S. PAT. NO. 2,827,913

Use with Control Valve CV-1G or CV-2G

SWIVEL CONTROL VALVE
PART NO. CV-1 G
A lifetime valve with a screwdriver tip, screws onto and operates all WATSCO GOLD SEAL TAPPING VALVES.

ACCESS "T" VALVE
- The Access "T" Valve is soldered or brazed into the branch end of any solder tee fitting, thus providing a permanent leakproof port for servicing sealed or open units. Available in five sizes for ¼" to ⅝" I.D. Branch openings.
- For additional information, see your wholesaler or write Dept. N-61.

WATSCo INC.
1020 EAST 15th STREET, HIALEAH, FLORIDA

order and stock correctly for each season," he offers. He showed his knowledge of the company's operations, sans automated accounting, by tossing off a few figures.

An interesting one: he moves over 200 compressors a year. In addition, he averages 10 exchange compressors a month, 120 a year.

The company has been told, he says, that it is the fifth largest mover of Gustin-Bacon duct. A major reason, of course, is 555's recommendation that G-B duct be used on its approved installations under its performance guarantee program reported in last week's NEWS.

Again along the line of customer service, 555 makes available to the trade a meeting room where training meetings or general discussions can be held. Especially is the room used by the very active Central Arkansas RSES chapter which frequently boasts 100 in attendance.

555 has held educational meetings at which manufacturers were present for a full day to discuss their products with 555's customers.

Has No Problem with Heating Wholesalers

On what seems to be a growing competition between heating wholesalers and refrigeration wholesalers, Tschumi has as yet found no problem. "In most instances, a heating dealer who gets an air conditioning job subcontracts the job to a refrigeration man. This refrigeration man, of course, is our normal customer, and he comes to us for the supplies he needs."

Little Rock has no refrigeration licensing setup, so 555 attempts to screen its sales by knowing that the individual is a qualified serviceman. A commercial or industrial account without such a qualified serviceman or operator cannot purchase supplies from 555.

During the interview which resulted in these two stories of 555's distributing and wholesaling functions, Tschumi repeatedly used words like *moral responsibility, obligation, loyalty*. That he was not speaking for effect can be attested to by a statement he published last year in a letter to his dealers. "We feel," Tschumi said, "that this is the year to *sacrifice quantity* in sales and to assure quality in our sales." (Italics ours.)

A. O. Smith Forms Consumer Products Div. In Realignment

KANKAKEE, Ill. — In a realignment of operating groups, A. O. Smith Corp. has formed the Consumer Products Div., the firm announced.

M. E. Morgan, A. O. Smith group vice president, stated that all residential and commercial water heaters, boilers, and water softeners, under the former Permaglas Div. at Kankakee, will now be administered by the new Consumer Products Div.

"It is felt that this move will provide the organizational streamlining necessary for new product development and greater diversification of water heating and conditioning applications," Morgan said.

Edwards Announces Trade Price Reduction On ½-In. Baseboard, Urges Its Use

POMPTON PLAINS, N. J.— Edwards Engineering Corp. here has announced a trade price reduction on its ½-in. baseboard —from $1.48 per foot to $1.39.

By installing ½-in. baseboard radiation instead of the commonly accepted ¾ in., heating contractors can realize savings on each house, according to the company.

The manufacturer of boilers, baseboard radiation, zone valves, and circulators urges contractors to pass this savings on to the consumer by installing multiple zone heating in houses, motels, offices, and apartments.

In support of its ½-in. baseboard recommendation, the company said that it is following the lead of IBR which has tested the smaller tubing and found it completely satisfactory.

Edwards Engineering said it has equipped at least 5,000 homes with the ½-in. baseboard with "outstanding results."

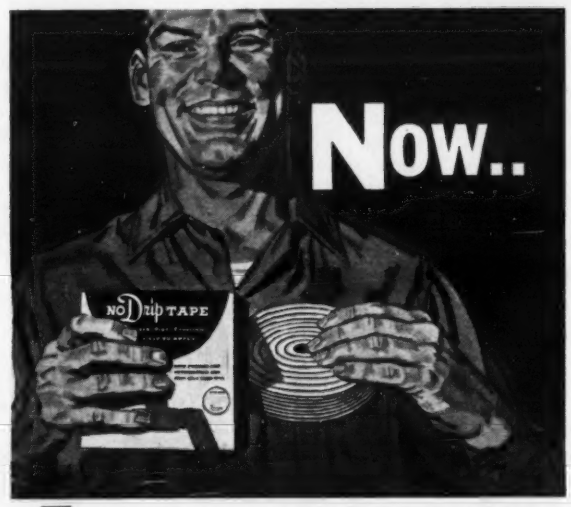
The ½-in. element has been specifically designed for use with the Edwards zone control boilers which are equipped with the Edwards "Even-Flow" 14-ft circulator, it was pointed out.

Chemicator Div. Names Distributor

BURBANK, Calif.—Chemicator Div., Erlen Products Co., manufacturer of "Chemicator," a new type chemical treatment feeder, has announced the appointment of Veri Products Co., Pontiac, Mich., as master distributor for northeastern and north central states.

Don Borgeson, president of Veri Products, was formerly president of the Associated Laboratories, water consultants, it was noted. Veri Products will distribute Chemicator through refrigeration and air conditioning wholesalers, contractors, and local area distributors.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.



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No tools. No vapor-seals, no fasteners, brads or adhesives. Wrap NoDrip Tape spirally around any size pipe, joints, tees, valves, angles . . . and the job's done! NoDrip Tape is a pliable, cork-filled, self-adhering product. Forms a *permanent* air-tight, 100% vapor- and moisture-proof jacket. Stops condensation drip, sweating, frost. Ends rust and corrosion.

MORTELL NoDrip PLASTIC COATING . . . For big areas, large pipes, tanks, air ducts. Another fine Mortell refrigeration product. Applies with brush or trowel to metal, concrete, brick, plaster, tile or composition surfaces. Permanently stops condensation, rust, corrosion.

Mortell COMPANY

Makers of Mortite Caulking Cord and Mortite Caulking Gum

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Please send full information about the complete line of Mortell refrigeration products.
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Be ready for the Summertime Boost in Air-conditioning, Refrigeration, and Motor Servicing . . . Get these 2 great aids to capacitor replacement NOW!

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Twenty pages filled with useful information on capacitor-start and capacitor-run motors, valuable data on capacitor rating selection, complete listings of Sprague AC Capacitors, and a comprehensive Interchangeability Guide for Motor-Starting Capacitors including Sprague and ten other manufacturers.

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Computer Speeds Orders

General Electric Opens $3 Million Parts Distribution Center In New Concord, Ohio

NEW CONCORD, Ohio — A new, $3 million parts distribution center, built to support the fast servicing of General Electric air conditioners, major appliances, and TV sets throughout the country, has been opened here.

"Our greatest concern is to get the right renewal part shipped as quickly as possible to help service organizations handle customer needs," said Thomas J. Killeen, manager of the new facility. "This center will help us do just that."

The new building contains more than 425,000 sq ft of warehouse and office space. Nearly 55,000 different parts — from tiny screws, nuts, and bolts to complete combustion chambers for home furnaces—are stocked for General Electric and Hotpoint major appliances and G-E television receivers.

These items include parts for both room and central air conditioners, refrigeration, freezers, ranges, home laundry units, dishwashers and "Disposalls," water heaters, TV sets, and stereo units.

A computer is utilized to speed orders and maintain a perpetual inventory. Availability of items can be checked almost instantly with the input of a catalog number into the computer. Orders are fed into the computer which prints an acknowledgment, an invoice, and a shipping memo—in addition to adjusting its inventory of the particular parts just ordered.

Computer Warns of Depleted Inventory

When inventories run low, the computer emits a warning to stock control personnel so that the needed parts may be reordered and re-stocked.

The printed shipping orders also contain a coded location reference for each part ordered so that the accumulation of each order is greatly speeded up in the warehouse.

The Parts Distribution Center is tied in with G-E's leased wire network so that it has direct communications to 230 General Electric offices across the country. Orders come in by teletype and on punched tapes—even during the night and weekend hours when most places of business are closed.

"Orders received on tape may be fed directly into the computing operation," it was pointed out. "Those which come in by teletype—or in some cases by phone or mail—have to be transcribed onto punched cards. The computer then prints up the invoice, shipping memo, and acknowledgement.

Computer Handles 10 Service Shops

"The computing operation accepts all orders and maintains inventory records for 10 service shops across the country where refrigeration and air conditioning units are reconditioned.

"These shops teletype their daily production totals to the New Concord center at the close of each business day. These figures are fed into the computer which adjusts its inventory for these locations.

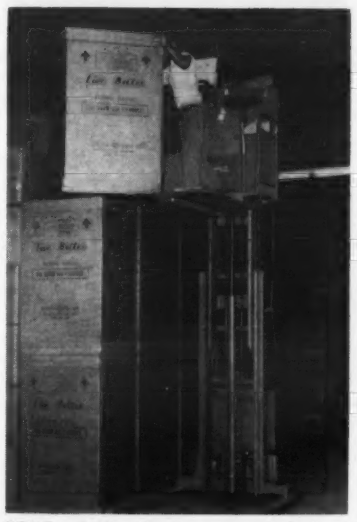
"By 9 a.m. the following day, all required shipping papers, transmitted by wire, are at the service locations. The amount of orders passed on by New Concord are governed by the production and known inventory level of each shop.

"In addition, the computer will automatically route a request for units from one location to the next closest location when the original shop's inventory runs out.

"The data processing center also is used to analyze service-call data collected from 28 service districts which encompass 60 cities across the country. From this continuing analysis, company marketing officials are able to determine the impact of service on customers—and customers' buying habits.

"Each district is measured competitively on such factors as the sense of urgency and speed with which service is provided, its availability and the technical competence of servicemen.

"The printed shipping memos for the New Concord facility are transmitted via pneumatic tube to one of two dispatchers in the warehouse. He notes their priority and passes them on to the accumulators. Their job is made easier by the coded location reference printed alongside each part ordered."



SOME of the larger parts stocked at G-E's New Concord distribution center include these oil warm-air furnace casings.

Most Parts Must Be Individually Packed At New Concord

The center receives parts from many General Electric manufacturing locations and more than 1,000 outside vendors. In most cases, renewal parts that come to New Concord must be individually packaged before they are placed in inventory.

"We have to do this, since the parts must stand two or three additional shipments from here," explained Killeen. "Our manufacturing locations normally ship in bulk. They pack to withstand this one shipment only. We must do better than that since our entire purpose is defeated if the parts we ship arrive damaged in any way."

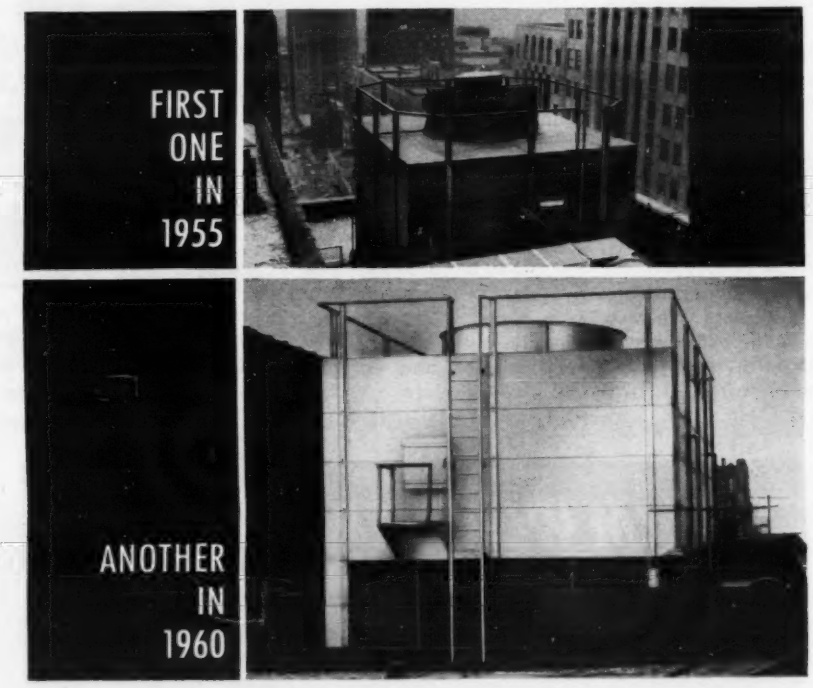
As parts are received, packaged, and warehoused, the information is fed into the compartment so that the permanent, perpetual inventory may be kept accurate.

Moorhead Joins Sprague Electric

NORTH ADAMS, Mass.—William L. Moorhead has joined Sprague Electric Co. as product manager for a-c capacitor sales, it was announced by Carroll G. Killen, vice president, industrial and military sales.

Moorhead

Moorhead comes to Sprague from the appliance control department of the General Electric Co. at Morrison, Ill., where he was residential controls sales manager for air conditioning and heating. Moorhead had been with General Electric since 1949.



The LaSalle Hotel, Chicago...

Saves $486.80 per day with Binks cooling towers!

"Without our Binks cooling towers our water bill would run $500 a day. As it is we pay only $13.20 per day for 86,000 gallons of makeup water . . . a savings of $486.80," reports Mr. J. E. Petermann, chief engineer of the LaSalle Hotel.

This 1000-room hotel now has two Binks 2-K cooling towers, one 2-fan unit installed in 1960 and a separate 1-fan tower which has been operating since 1955.

The new 2-K tower replaced a smaller Binks unit which had been in use for 23 years and was still operating perfectly when dismantled to make room for the new tower.

Two factors influenced the choice of another Binks tower . . . outstanding performance of the first two units and lower first cost of the new tower. Because Binks equipment is of modular design it is highly flexible. Expensive custom work or modifications were not necessary.

Free Specification Data

In 9 cases out of 10 a standard Binks cooling tower will meet your requirements exactly at a substantial saving. Write for mechanical and performance specifications.

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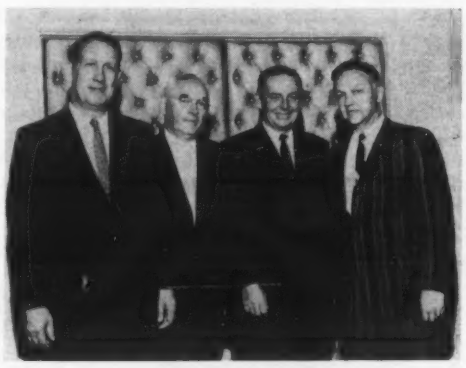


NEW OFFICERS of the Mechanical Contractors Association of America, Inc., elected at the Miami Beach convention, are (l. to r.) Arthur R. Nagel, Cincinnati, treasurer; Leon L. Munier, New York City, senior vice president; Frank V. McBride, Paterson, N. J., president; and Joseph S. Kearney, Chicago, immediate past president.

MCA Elects McBride President, Gets No Resolutions To Act Upon

MIAMI BEACH, Fla.—Frank V. McBride, prominent mechanical contractor from Paterson, N. J., was elected president of Mechanical Contractors Association of America at its 72nd annual convention.

Leon L. Munier, Wolff & Munier, New York City, was elected senior vice president and Arthur R. Nagel, Cincinnati, was elected treasurer. Under the MCA constitution, the senior vice president is automatically president-elect for the following year. John T. McCann remains as executive vice president of the association.

To maintain the traditional geographic distribution of board members, the following men were named: James H. McCauley, Jr., Chicago; William H. Singleton, Washington, D. C.; Anthony L. Cherne, Minneapolis; George N. Reeke, Green Bay, Wis.; and John A. Rice, Charlotte, N. C. Re-elected for additional three-year terms were Frederick P. Williams of Boston and James M. Anderson, Jr. of Philadelphia.

For the first time in many years, no resolutions were offered for the membership to act upon.

Three major panel discussions were held. At the Welding Panel, Harry F. Reid, Jr. of the McKay Co., discussed new developments in welding rods. The Labor Seminar, moderated by MCAA Executive Vice President John T. McCann, reviewed current legislation and various industry problems. The Air Conditioning Panel had as its subject "Coil Freeze-ups in Air Conditioning Equipment." Headed by David K. Nachman of Cleveland, this panel featured the views of a major contractor, a coils manufacturer, and a components manufacturer.

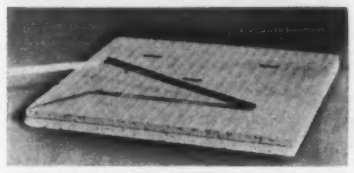
(Editor's Note: A report on the panel discussion on coil freeze-ups was published on page 15 of the June 5 NEWS.)

The convention adjourned with the announcement that next year's meeting would be held in Phiadelphia's Sheraton hotel, May 8-11, 1962.

U. S. Gypsum Becomes Sole Sales Agent for Airson Supply System

CHICAGO — United States Gypsum Co. announced that it has become exclusive sales agent for Airson Co., Inc., Milwaukee, originator of a patented heating and cooling "draft-free" air distribution system.

Regarding the Airson system, it was explained that slots cut into special foil-backed "Acoustone" ceiling tile "permit air to enter the room from the plenum space above the ceiling.



FOUR special slot openings adapt U. S. Gypsum Co.'s foil-backed "Acoustone" ceiling tile to Airson draft-free air distribution system. Adjustable slides, pictured covering slots, can be moved to the left to permit heated or cooled air to enter room.

"Each tile acts as an air-supply vent that helps distribute air evenly across the entire ceiling surface. Kept under constant static pressure, air flows through all slot openings at the same velocity to keep ceiling-to-floor temperatures constant.

"The air supply within a desired sector of the room is easily controlled by adjustable slides on the back surface of each Acoustone ceiling tile. Slides may be quickly adjusted from below to achieve proper balance."

The uninterrupted ceiling surface is said to allow flexibility in placing light fixtures and furniture, and in relocating ceiling-height partitions.

"The Airson system's downward air flow preserves the cleanliness of Acoustone ceiling tile by preventing dust and dirt from reaching the ceiling."

Sanders Represents Drayer-Hanson Again

LOS ANGELES — Drayer-Hanson Div., Hi-Press Air Conditioning of America, has announced the appointment of C. Kelsey Sanders, Miami, Fla., as manufacturer's representative for its air conditioning products in southern Florida.

The announcement marks Sanders' return as a D-H representative, after a brief period, it was noted. For over a score of years, the firm represented the West Coast manufacturer—recently, as the C. Kelsey Sanders organization; prior to that, as Sanders & Hollander.

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Makes Motor DRIVEN APPLIANCES SAFE!

MIGHTY MITE MOTOR PROTECTORS

MECHANICAL INDUSTRIES PRODUCTION CO.
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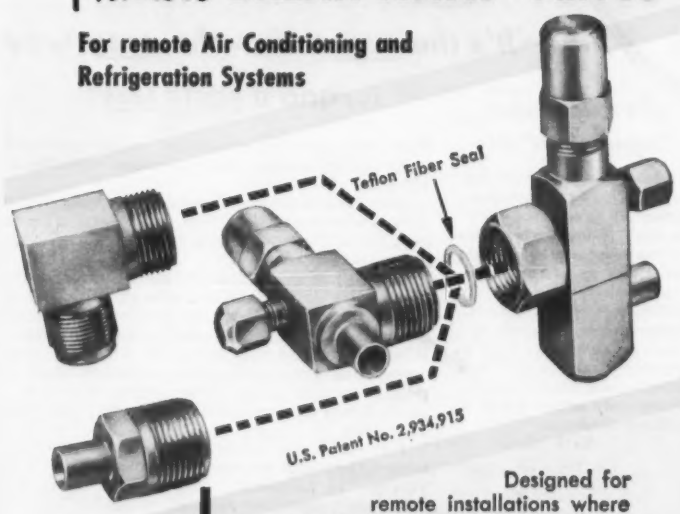
Primore BREAK-AWAY Valves

For remote Air Conditioning and Refrigeration Systems



Designed for remote installations where manufacturer desires complete control of processing and charging of system. Allows serviceman to make field installation.

Write for FREE descriptive catalog.

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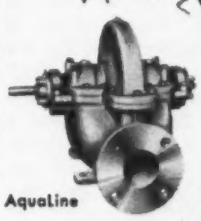

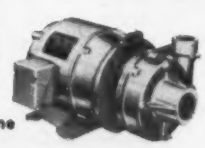

PEERLESS AQUALINE® Pumps are available in sizes to 8-inches. Capacities to 2600 gpm, heads to 280 feet. Temperatures to 250°F. Horizontal split case design allows quick inspection without disturbing piping.

PEERLESS FLUIDYNE® Pumps are compact end-suction design. Redi-Packed in 22 sizes from 1 x 2 x 6 to 2½ x 3 x 10, for immediate shipment. Heads to 230 feet, capacities to 300 gpm, motors from 1 to 15 hp.

If there is a key word to describe Peerless Pumps, that word is QUALITY. You'll find it in the way the pumps are designed. You'll find it in the way the pumps are made. And you'll find it most apparent in the way these pumps operate. Remarkably long trouble-free operating records are routine with these better-made pumps.

But QUALITY is just the start of a long list of important features that recommend the Peerless AquaLine and Fluidyne line of pumps for your water handling jobs. There's immediate availability from ready-to-ship stocks. Complete hydraulic coverage for every type of application. Compact streamlined design that gives you space-saving good-looking layouts. And fast, on-time service from a network of warehouses and field offices.

ATTENTION DEALERS: A limited number of Peerless AquaLine and Fluidyne pump dealerships are available. Please write for complete information.

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Peerless Pump Hydrodynamics Division

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☐ Bulletin B-2100 on Peerless Aqualine Pumps.
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State _____

TECH CENTER

by FRANK J. VERSAGI

Heating, Cooling & Refrigeration In Supermarkets

(From a talk given before the Jacksonville, Fla., chapter of ASHRAE)

When we consider the interrelationship among heating, air conditioning, and refrigeration in the modern supermarket, we immediately encounter the impact of different viewpoints. As I see it, there are four viewpoints which come into play.

One: commercial refrigeration manufacturers are primarily interested in the effect of the heating and cooling system on the refrigerated case performance.

Two: the store owner is primarily interested in the total operating cost for heating, air conditioning, and refrigeration, and this concern includes loss of product or merchandise due to malfunction of any one of these three factors.

Three: the shopper is concerned with her own comfort and convenience while she is in the store.

Four: the heating and cooling contractor must be concerned that his system does not affect the operation of the refrigerated cases because he may be called upon to make gross corrections in his air handling, for example, should this be the case.

These four viewpoints frequently overlap. The concern over the effects of air currents and drafts on case performance would be shared by the commercial refrigeration manufacturer and the heating-cooling contractor. The owner and the air conditioning contractor would consider whether or not it is possible to realize a first-cost savings on the air conditioning system by taking into account any refrigerating effect on the structure due to display fixtures. The owner, the refrigeration contractor, and the heating contractor are all concerned with any possible savings in heating costs which might be realized by making use of heat generated in an air-cooled machine room.

The consumer, the store owner and his employes are involved when it is decided at what temperature to set the air conditioning. If the temperature is comfortable for the working employes, women shoppers in shorts and halters complain that the store is too cold. I have met only one store manager, who, when he receives this kind of complaint, suggests that the women wear more clothes when she shops.

So we can see that there is a definite and unavoidable interrelationship among heating, air conditioning, and refrigeration in the modern supermarket. Compounding the difficulties due merely to viewpoint is the simple fact that there is disagreement among knowledgeable engineers over the significance of the several factors. Whether or not any benefit can be derived in the heating season from a machine room is debated; whether any credit should be taken for the refrigerating effects of the hundreds of feet of refrigerated display fixtures is argued—and argued by respected, authoritative, knowledgeable engineers.

No Black or White Decisions In Engineering

You know, lay people somehow have the notion that engineers always know when something is right or wrong, that engineering is a profession which allows a black or white decision, and that there is no grey ground. I don't think it's disrespectful to engineers to point out, in fact, I think it's important that engineers themselves realize that even in such down-to-earth useful arts as heating and cooling, there is a lot more that we don't know than we do know.

As a result, we theorize, we field test, we run accelerated life tests. With all this, I sometimes feel after talking with a group of engineers that engineering precision is about on a par with weather forecasting.

Last winter I had occasion to be in Jackson, Mich. As is customary when you are getting acquainted with new people, the talk turned to the weather. In answer to my question, several people agreed that winters in Jackson are rather mild for its location in the state. "You see," they explained, "Jackson is actually in a saucer. When a storm comes in from the northwest, it hits the rim of the saucer, splits in two and bypasses the city."

Only a couple of weeks later, I was in Dayton, Ohio. Several Daytonian complained that their winters are extremely severe. "You see," they explained, "Dayton is in a saucer. When a storm approaches, it spills over the rim of the saucer right down onto us."

Like the weather forecaster, a good engineer is more right than wrong most of the time. He is almost never all right. All of this is not at all intended to belittle the engineer.

The point is that supermarkets offer a challenge, a challenge that can well be accepted and met by consultants or mechanical contractors, or somebody. Someone must be concerned with the obvious fact that heating, air conditioning, and refrigeration mutually affect each other in a supermarket, and that the store should be designed as an integrated whole, not as three segregated factions.

To show how disagreement among knowledgeable engineers can center around even fairly basic information, I'd like to recall the recent experience which accompanied my publication of the four-week series entitled "Refrigerant-22: Hero or Villain." Most of you, I am sure, realize that for the 10 or 12 years since R-22 was introduced, there have been people who are convinced it is no damn good, at least no good for certain applications.

It is no secret to anyone involved in commercial refrigeration that the two opponents in

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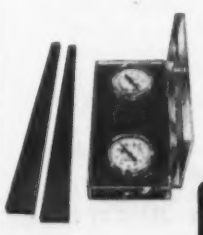

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MARSH Refrigeration Instruments

this particular fight are Hussmann Refrigeration Corp. on one side, and Tyler Refrigeration on the other. Hussmann was one of the first to use 22, used it in almost all of its equipment, and preaches 22 every chance it gets. Tyler does all it can to discourage the use of 22.

I ran the series giving the pros and cons. One of the first letters I received was a fairly lively attack from Jack Caulk, president of Hussmann, in which he complained that I was digging up old stuff, that I was taking an unfair view of the subject, and that there was no question but that Refrigerant-22 is an admirable refrigerant.

Only a few days after receiving his letter, I had occasion to attend a Tyler distributor meeting. One of Tyler's principals came up to me and with a gleam in his eye said, "Who in the hell is writing those articles for you, HUSSMANN?" Now I know many of the members on the engineering staffs of both of these companies. Both staffs contain some competent engineers, and each company has one or two men who can honestly be described as brilliant. Now if such engineers, looking at the same data, cannot agree on the significance and interpretation of that data, what chance has a store owner or a customer—or an editor, for that matter.

Something that I have been unable to find any disagreement on among commercial refrigeration manufacturers is the adverse effect of air currents or drafts on their cases. The effects of drafts, of course, is to displace the refrigerated air in the case with warmer and usually damper air from the store ambient.

As G. K. Bently, engineering vice president of McCray, says, "Every cubic foot of air that spills out of a refrigerated case is replaced by a cubic foot of room air, which, besides being warmer, contains moisture. This air has to be cooled down to case temperature, which increases the refrigeration load. In addition to this, the moisture in the air probably will condense on parts of the fixture, causing an accumulation of moisture dripping and sometimes ice. This extra load also causes the coils to frost up faster and in severe cases, bogging them down, resulting in little or no refrigeration, and causing more frequent defrost cycles."

Holding that the most frequent cause of drafts are improperly handled diffusers and unit heaters, a Tyler Refrigeration statement stresses that air motion adjacent to an open case should be held below 50 feet per minute velocity and preferably below 25 fpm.

In non-air conditioned stores, where only fans are used to obtain some comfort, the problem is even more pronounced. Most of the commercial refrigeration manufacturers point out that even store traffic, just customers walking by a case, will cause some displacement of air in the cases.

C. V. Hill Co. compares the effect of shopper traffic with swirling dust behind a moving train or automobile.

Unit heaters are considered the most obnoxious adversaries of refrigerated food display. Air movement is frequently such that hot air is blown directly into a refrigerated display case.

McCray Refrigerator Co. points out that they have on occasion encountered two streams of air which came together from opposite sides of a room, then were deflected downward directly into a case. McCray also has had experience indicating that balloons and banners hanging from the ceiling often cause the air from air conditioning or heaters to be deflected down into the case.

One other example that I can think of. Tyler Refrigeration, I believe, reported an instance or two where an exhaust fan which was run at night to clear the store air was placed directly over a frozen food case and actually pulled the cold air out of the case all night long.

Unit heaters have also been found guilty of being a major factor in the discoloration of meat. Several times incomplete combustion and the consequent generation of carbon monoxide has been proved to be the cause of the discoloration. In other instances total store ventilation was such that a negative pressure existed and flue gasses were pulled back into the store with the same discoloring effect.

Another factor in discoloration, one which seems to get no consideration on the part of the air conditioning or heating contractor is the radiant heat effect of store lighting. As merchandisers require better lighting, the higher illuminating intensities increase this radiant effect upon the top layer of products in a display case.

C. V. Hill claims to have measured temperature rises as much as 8°F in the top layer of a product which was exposed to high intensity illumination. This company estimates that maximum allowable radiant heat on perishable products is tied in with a 60-foot candle limitation on illumination.

Tyler points out that a hot roof in addition to lighting can add a significant radiant load to the fixture. Using a formula developed by one of its engineers, Tyler estimates that a ceiling temperature of 120° will result in a pickup of 83 Btuh per square foot in the top layer of a meat case stacked with 35° meat. If the ceiling temperature could be reduced to 80°, Tyler estimates the radiant load pickup would be reduced to 41½ Btuh per square foot.

Radiant heat especially bothers commercial refrigeration people because radiant heat is not reflected in the store ambient and is completely unaffected by the cold air in the case which can in no way buffer out the effect of radiant heat.

(To Be Continued)

MOLECULAR SIEVES & REFRIGERANT-22

Tests conducted in Germany have shown a reaction between molecular sieves and Refrigerant-22. According to a paper by Dr. Heinz Steinle appearing in *Kaeltetechnik,* April, 1961, "Dry Linde molecular sieves, 4A, decomposes R-12 and even more so R-22." However, the report goes on to show that the chlorine liberated by the reaction is combined with the molecular sieves and "the refrigerant and oil do not form acids."

A full report on Dr. Steinle's paper will appear in a future issue of the NEWS.

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by R. V. Anderson
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252 pages, 8½ by 11
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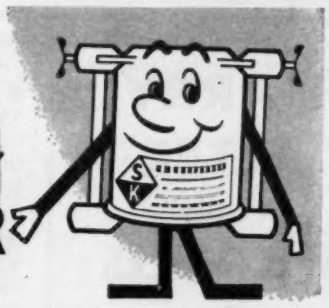

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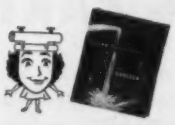

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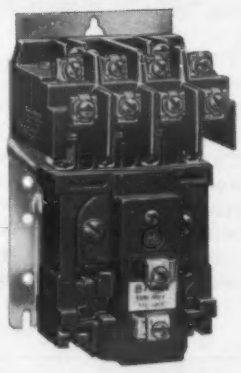

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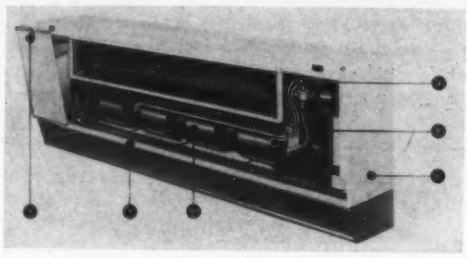
Modine's 'School-Vent' Utilizes New Concept To Provide 'Positive Regulation of Comfort for Low Budget School Rooms'

RACINE, Wis.—What is described as "a new concept in providing positive regulation of comfort for low budget school classrooms" was unveiled here by Modine Mfg. Co.

According to Cary C. Wilson, Modine sales vice president, the development, called the "School-Vent," utilizes a concept "which promises economies coupled with high quality performance." Instead of using modulating control valves to regulate steam or hot water, the Modine concept controls the air—not the water, it was indicated.

"This provides more positive, constant, and pinpoint room temperature control and is accomplished through a unique full-damper system," the company claims.



INTERIOR VIEW shows components of Modine's new "School-Vent," which is said to couple high quality performance with low cost.

"Included in the system are:

"1. A face-and-by-pass insulated damper which directs air through and around the heating coil according to comfort requirements.

"2. An insulated anti-wipe damper which permits complete isolation of the coil, eliminating heat pick-up from the coil.

"3. Indoor and outdoor dampers which assure proper blend of fresh and recirculated air at all times.

"The system is constantly alert to changes in classroom temperature and fresh-air requirements, adjusting automatically to maintain pinpoint comfort levels."

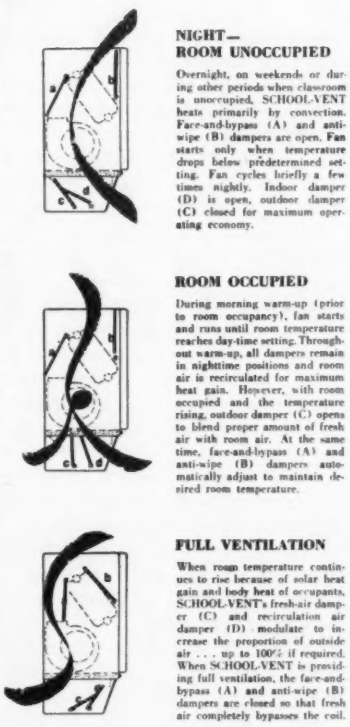
The School-Vent heats with steam or hot water and cools with central-source chilled water. Five sizes up to 1,500 cfm heating and cooling are available. If necessary, cooling can be added later. The unit can be ceiling or wall mounted, partially and fully recessed or fully exposed.

According to Wilson, the development has been three years in the research and test stages and represents the most significant investment by Modine in any heating or air conditioning product it has introduced to date.

Wilson noted that while the foremost use of the new concept is in the school field, it does have related application for hospitals, motels, office buildings, and hotels—"in fact, any area that can use full control of outside air for maximum heating-cooling effectiveness."

Another exclusive of the School-Vent, the company said, is its pushbutton lubrication system. "By simply pushing a button on the quick-access panel, metered amounts of lubricant are delivered to every oiling point. The system is orificed to assure equal distribution. The entire unit is lubricated in seconds without removing front panel."

Quiet operation was listed as another feature. An "exceptionally quiet" two-speed motor isolated by rubber pads is used. Fans are run at low rpm and are sized to minimize tip speeds. Over-all decibel ratings have been reduced, it was stated.



NIGHT—ROOM UNOCCUPIED

Overnight, on weekends or during other periods when classroom is unoccupied, SCHOOL-VENT heats primarily by convection. Face-and-bypass (A) and anti-wipe (B) dampers are open. Fan starts only when temperature drops below predetermined setting. Fan cycles briefly a few times nightly. Indoor damper (D) is open, outdoor damper (C) closed for maximum operating economy.

ROOM OCCUPIED

During morning warm-up (prior to room occupancy), fan starts and runs until room temperature reaches day-time setting. Throughout warm-up, all dampers remain in nighttime positions and room air is recirculated for maximum heat gain. However, with room occupied and the temperature rising, outdoor damper (C) opens to blend proper amount of fresh air with room air. At the same time, face-and-bypass (A) and anti-wipe (B) dampers automatically adjust to maintain desired room temperature.

FULL VENTILATION

When room temperature continues to rise because of solar heat gain and body heat of occupants, SCHOOL-VENT's fresh-air damper (C) and recirculation air damper (D) modulate to increase the proportion of outside air . . . up to 100% if required. When SCHOOL-VENT is providing full ventilation, the face-and-bypass (A) and anti-wipe (B) dampers are closed so that fresh air completely bypasses the coil.

SKETCHES illustrate how unit operates under three different conditions.

Additional School-Vent features include:

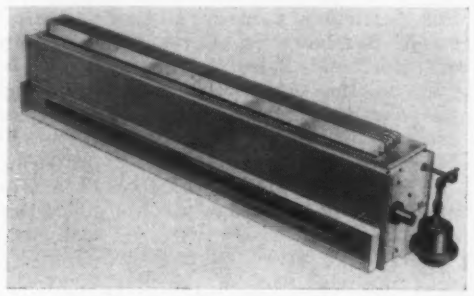
"1. Easy access control panels. Hinged control panels open with key-lock latches.

"2. Easy filter removal. No panels need be removed to replace the dirty filter. Just slide out the old, slide in the new.

"3. Spacious end compartments to simplify installation and servicing. The generous sized end sections provide ample work area for piping, controls, and electrical connections.

"4. Student-proof cabinets. The units are built to withstand the day-after-day abuse that can't be avoided in busy classrooms. Special die forming construction here has enabled Modine to achieve with 16 gauge metal greater strength than the traditional 14 gauge. All surfaces are Bonderite treated and finished with baked-on enamel in a choice of six decorator colors. Front panels are covered with scuff resistant vinyl."

The School-Vent can be used with fin-tube radiation for downdraft protection along broad expanses of window wall.



NEW TITUS "Variable Volume Reheat Unit" can be used with low or high pressure systems to provide low cost heating, cooling, and ventilating, according to the manufacturer.

'Variable Volume Reheat Units' Designed For Commercial, Industrial Buildings

WATERLOO, Iowa — A new "Variable Volume Reheat Unit" claimed to provide better, more efficient, lower cost heating, cooling, and ventilating for perimeter areas of commercial and industrial buildings has been announced by Titus Mfg. Corp. here.

This unit, which was developed by Titus in conjunction with Minoru Yamasaki . . . Smith, Hinchman & Grylls, Associated Architects & Engineers, is the first of its kind and can be used with low or high pressure systems, according to the announcement.

The reheat unit "provides many advantages — one being lower initial equipment costs," Titus said. "Fan capacity, for example, can be less when these units are designed into the variable volume reheat system.

"Due to solar orientation, all perimeter areas do not require maximum cooling or maximum flow at the same time.

"With variable volume it is then possible to design the fan capacity by the cooling air flow required at a specified time, rather than the total of the maximum flow required at each outlet in the perimeter area as would be the case with a constant air flow system.

"Another advantage is lower operating costs. For heating, only about one-fourth of the maximum air flow need be supplied with Titus Variable Volume Reheat units.

"Additional savings on heating equipment and fuel costs are realized from the low air flow since a minimum of cool primary air is reheated. Operating costs during cooling are less, too, because the Titus Reheat unit supplies varying quantities of cooled air to satisfy the changing cooling load.

The unit is also claimed to allow greater design freedom for the architect in the perimeter area. These units can be installed under the floor—with the outlets flush with the floor —or above the floor at any height desired, it was stated.

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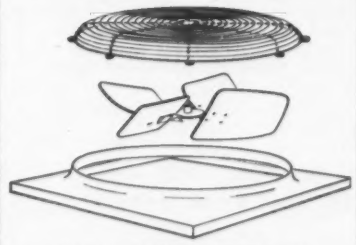

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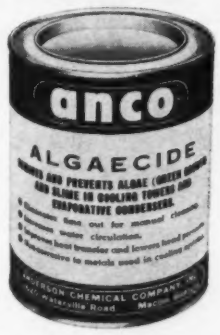

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June Perks Up Cooling Sales--

(Continued from Page 1, Col. 5)

ing to Louis Lidsky, president of the distributorship. A spell of fairly warm weather plus general improvement in business conditions were credited with having created the sudden surge in business. Promotion of air conditioning in all types of advertising media has increased noticeably in the past 10 days.

● In the Ft. Worth area, reliable reports indicate that May installations of central system unitary air conditioners in residences nearly doubled the number installed in April.

● "We had quite a few days in April well up in the nineties," wrote the sales manager of an Arizona air conditioning distributor in May, "and this has contributed to a much improved volume over 1960 and we are confident the trend will continue in that direction."

● "Impulse buying of air conditioning has picked up noticeably among some commercial buyers and in the smaller industrial plants," said a major Detroit distributing firm, which keeps a close watch on retail sales. "This is partly due to the weather—partly due to an improved business picture, with auto sales in May being the best monthly record in years. The 'feeder' plants to the larger industrial concerns will become buyers before the big plants do."

A Detroit contractor confirmed this opinion about the big plants, stating that the slump late last year had cut the budgets for plant improvements, and that any effect from improved business and better "air conditioning weather" would surely show up in 1962. On smaller jobs—plenty of quotations, which could break out in a rash of orders with a little more hot weather, particularly with the improved business climate.

● "Service business very heavy in the past week—and this always means some sales will result. The weather and some improvement in business conditions has broken loose some large commercial and some industrial business. Weather hasn't quite been steamy enough to bring a big surge on impulse buying in smaller packages."—Thus reported a leading Chicago sales and service contractor.

● One place where air conditioning sales growth has continued, at least in terms of number of units installed, is Florida. Report of sales through April for the St. Petersburg-Clearwater - Lake Wales area by Florida Power Corp. showed an increase in number of units of nearly 20% over 1960, with April sales better than 25% ahead of April of last year.

While much of this gain was reflected in heat pump type room units, central residential air conditioners (both conventional and heat pump) were close to holding their own with 1960 figures, while a substantial increase was shown in installation of both types of unitary systems for commercial applications. It is significant that in this area about one central system is being sold for every two room air conditioners, this proportionate relationship being closer in commercial applications.

● In the Chattanooga, Tenn. area April sales of all unitary air conditioning (including room units) was down about 40% from 1960. However, most of this decline was in room units. Heat pump sales were only three units less, and commercial installations in April showed an increase of nearly 50%.

● Room air conditioner sales at the retail level were off generally throughout the country, there being neither an artificial stimulus (like the tax increase threat last year) or a natural one in the form of hot and sticky weather. Nevertheless, NEMA estimates of manufacturers' sales for the first four months of 1961 puts the total at 724,300, an increase over the total of 668,400 which it set for 1960. However, estimated April sales of 195,700 were down from the 226,900 figure for April, 1960.

June Heat 'Contradicts' 30-Day Outlook

The weather in the first week of June seemed to be in direct contradiction to the U. S. Weather Bureau's 30-day outlook for June, which predicted "below" and "much below" normal temperatures in the Eastern Seaboard, Middle Atlantic, and Great Lakes areas; and "above" and "much above" normal temperatures in the West and parts of the Southwest. Actual conditions were more in line for the previous Weather Bureau 30-day forecast from mid-May to mid-June, which called for above and much above temperatures in the Eastern Seaboard and Middle Atlantic States, "near normal" temperatures in the Middle West and South with "above normal" in the Rio Grande Valley, and "below normal" temperatures on the West Coast.

Private forecasts calling for above normal temperatures in the Great Lakes area and parts of the East during June seemed to be hitting the mark better than the U. S. forecast.

Piping Work--

(Continued from Page 1, Col. 4)

port said, "the Contractors' State License Board has ruled that an air conditioning contractor could do incidental chilled water and other piping in connection with the installation of an air conditioning system. The association sought a specific ruling and we set forth the reply of the registrator of contractors."

The reply of Registrar Chadwick was:

"Standard warm and chilled air conditioning system at Naples Apartments, Long Beach, consists of a combination warm air and refrigerated air conditioning system with low pressure hot water heater and refrigeration equipment in basement sending by pipes to individual apartments hot water from the hot water heater and when cooling desired chilled water from the refrigeration equipment.

"At each apartment there are coils, fans, and ducts with controls transmitting warm or cool air through diffusers to the room area.

"Our opinion is that this work can be performed by a contractor holding a C-20 license."

Mathes Purchased-

(Continued from Page 1, Col. 3)

tains substantial control, with Glen Alden becoming a 30% stockholder. Republic-Transcon Industries is listed on the American Stock Exchange under the symbol RTI.

The Mathes Co. manufactures residential, commercial, and industrial air conditioning and heating equipment.

The Mathes plant in Marble Falls, Texas, will be the sixth facility for Republic-Transcon Industries, other plants being in Los Angeles; Erie, Pa.; Portland, Ore.; Chicago; and Dallas.

Through its Republic Appliance Div. the company manufactures and sells gas and electric glass-lined water heaters, gas and electric clothes dryers, garbage disposals, and other major appliances. Texlite, Inc., Dallas, a wholly owned subsidiary, manufactures porcelain-enamel building wall panels and is one of the largest manufacturers in the country of plastic and porcelain enamel outdoor signs.

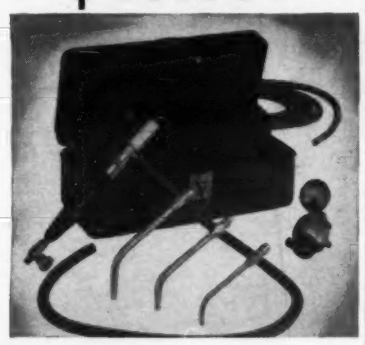
Republic-Transcon Industries recently purchased Western Tire Auto Stores, Inc., a 30-year-old chain of 100 retail auto equipment and hardware stores in Illinois, Indiana, Wisconsin, and Michigan, from Gamble-Skogmo, Inc.

Stevens stated that with the acquisition of Mathes and Western Tire Auto Stores, 1961 sales for Republic-Transcon Industries are expected to run about $30 million. The company's executive offices are in Beverly Hills, Calif.

Mathes had average sales during the past three years of approximately $10 million per year, it was stated. The company employs about 350 people in its Marble Falls location.

"No change in Mathes personnel is contemplated," Stevens said, "and we are pleased to announce that Robert B. Starnes, who has been with Mathes since its inception, will remain as president of this division."

BUILD YOUR BUSINESS ON $43.00!



Install • Service • Find and Fix Leaks with the

PREST-O-LITE

Refrigeration and Air Conditioning Outfit

This single compact kit costs only $43, yet contains every essential piece of equipment for your work. You get three interchangeable open-flame stems to provide the right air-acetylene flame for soldering, brazing, or heating. Fit the sensitive leak detector stem to the same torch handle, and you can pinpoint the tiniest halide gas leaks—as little as 100 parts in 1,000,000 parts of air. Compare that with soapy water!

In one sturdy carrying case, the kit also includes an adjustable gas pressure regulator, torch handle, and hose—everything for the installation, repair, and everyday maintenance of all types of refrigeration and air conditioning systems. See your local *Prest-O-Lite* dealer. Or write Linde Company, Division of Union Carbide Corporation, 270 Park Avenue, New York 17, N. Y.

LINDE COMPANY — UNION CARBIDE

"Linde," "Prest-O-Lite," and "Union Carbide" are registered trade marks of Union Carbide Corporation.

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This reproduction made from an unretouched photograph supplied by George F. Miller, owner, is visible proof of frost and icicle-free refrigeration.

"The excellent performance record of Krack units used in the original building was one of the major reasons for selecting more Krack units when our new storage room was added" *says George F. Miller.*

The BUC-ED low temperature units maintain temperature and humidity at a constant level to keep meat, poultry and frozen foods at peak freshness.

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KRACK ENGINEERED

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You save installation and maintenance costs because Certified Capacity Ratings guarantee equipment that matches the job. You gain advantage of lower bidding . . . no need to specify oversize equipment.

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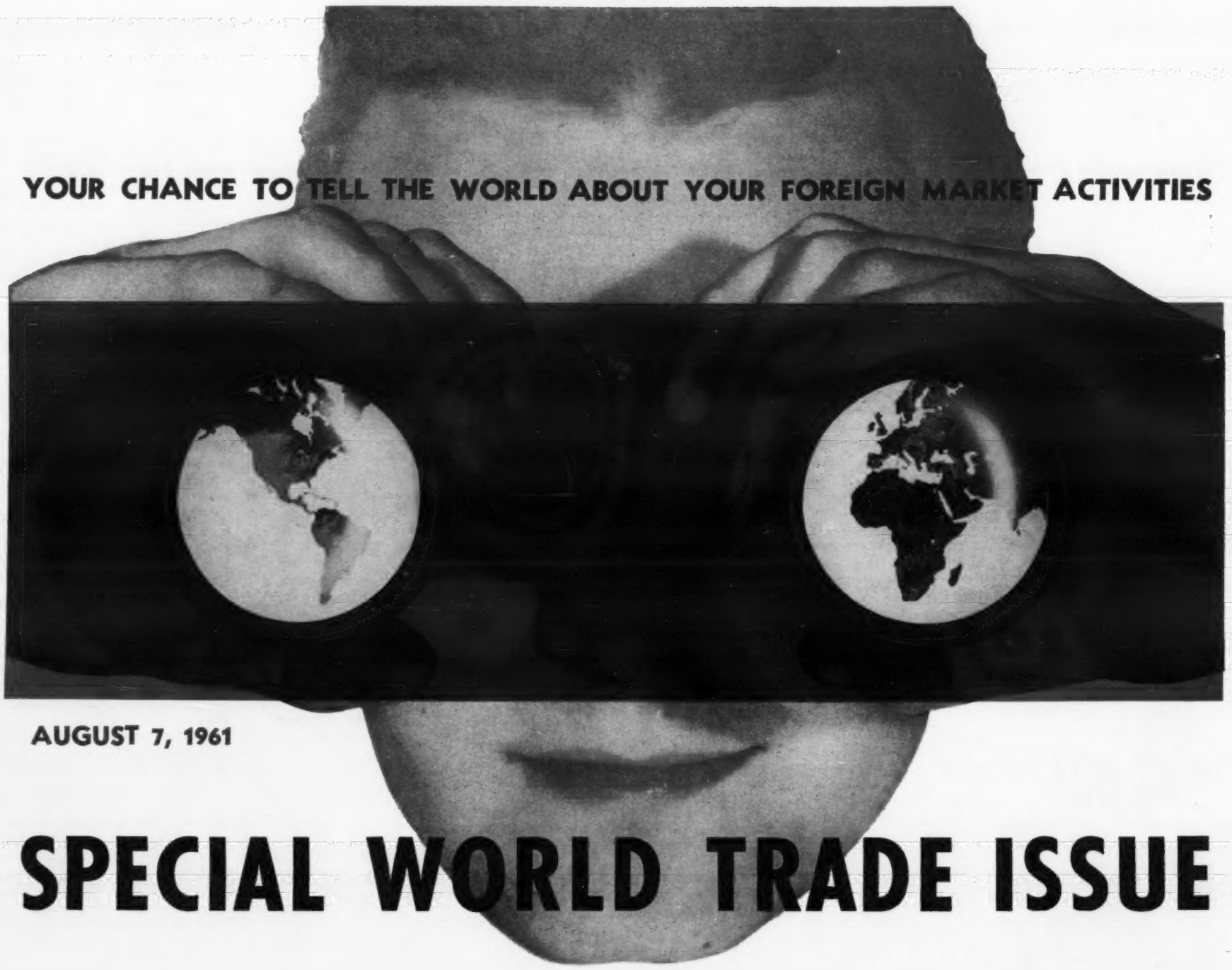

SPECIAL WORLD TRADE ISSUE

AT NO TIME IN HISTORY HAS WORLD TRADE BEEN MORE IMPORTANT

Coming up—the fourth annual World Trade Issue of AIR CONDITIONING, HEATING & REFRIGERATION NEWS! Designed both to *build your overseas markets* and to keep you informed on market potentials and competition abroad.

The August 7, 1961, World Trade Issue will be *the* issue of the year for the growing number of NEWS subscribers with a vital interest in world trade—export-import firms, distributors, contractors, government purchasing officials, and designers in the 83 different countries seeking out American-made or American-designed air conditioning, heating, and refrigeration equipment.

The 4th Annual World Trade issue will feature these important stories and statistical reviews:

1. New stature of world trade for mutual benefit and security
2. Growth of U.S. exports in the air conditioning, heating, and refrigeration industry
3. Discussion of export-import firms engaged or interested in the industry
4. On-the-spot reports of exciting new opportunities in Hong Kong and Tokyo by George Taubeneck

Plus—Business appraisals of the European "Common Market," Australasia, the Middle East, and Latin America by industry authorities who live and work in those areas.

Plan *now* to build your export market by scheduling a special ad for this important issue. Based upon the exceptional results obtained by many advertisers in past issues, here are some suggestions on how to get the most benefit:

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3. Feature foreign distributors
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5. Seek new foreign distributors
6. Introduce new export products
7. Report specific foreign installations

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WOODWARD 2-0924.

NEW YORK, 521 FIFTH AVE.,
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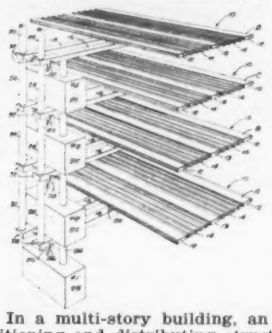
CHICAGO, 134 S. LA SALLE ST.,
FRANKLIN 2-8643-4.

LOS ANGELES, 4710 CRENSHAW BLVD.,
AXMINSTER 2-9501.

PATENTS

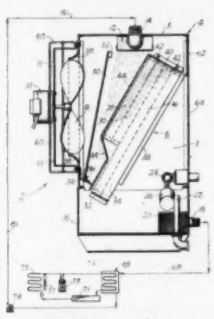
Week of Feb. 14 (Concluded)

2,971,747. AIR CONDITIONING AND DISTRIBUTING SYSTEM. James H. Young, Pittsburgh, Pa., assignor to H. H. Robertson Co., Pittsburgh, Pa.



1. In a multi-story building, an air conditioning and distributing structure comprising an individual air distributing duct system for each story of the building, individual independently operated package air conditioning units at selected stories of the building, each individual package unit being connected to the duct system of its story. . . .

2,971,750. EVAPORATIVE COOLING TOWER AND THE LIKE. Cecil Boling, West Hartford, Conn., assignor to Dunham-Bush, Inc., West Hartford, Conn.

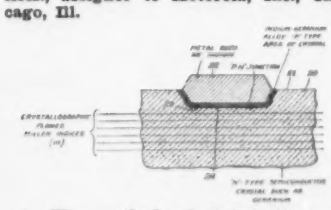


1. In evaporative cooling apparatus, a unit comprising a plurality of rectangular assemblies each of which is formed by a rectangular frame and a fin assembly mounted in said frame, each of said rectangular assemblies having two opposite faces, said fin assemblies comprising a plurality of corrugated strips mounted within said frame with the corrugations extending generally between said opposite faces but at a small angle from lines transverse to said faces whereby passageways are provided which are slightly offset, said corrugated strips being positioned so that the passageways formed by one strip are offset oppositely from the passageways of the next adjacent strip.

2,971,852. TEMPERATURE TELLTALE. Joseph Schulein, P.O. Box 212, Corvallis, Ore.

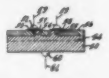
1. A thermosensitive telltale device adapted to be frozen at a predetermined temperature and denoting after freezing the occurrence of a temperature rise which comprises a semi-opaque to opaque unfrozen emulsion formed of immiscible liquids, said emulsion having the property on a freeze-thaw cycle of breaking down and separating into continuous liquid phases at temperatures above said predetermined temperature and signal means associated therewith which is rendered operably effective as a telltale sign at the end of said freeze-thaw cycle by virtue of the formation of said continuous liquid phases.

2,971,869. SEMICONDUCTOR ASSEMBLY AND METHOD OF FORMING SAME. William E. Taylor, Phoenix, Ariz., assignor to Motorola, Inc., Chicago, Ill.



1. The method of frabricating an alloyed junction semiconductor assembly so as to provide at least one junction in a semiconductor crystal element in such assembly which junction is substantially parallel to a predetermined crystallographic (111) plane within such element, which method includes the steps of preparing a semiconductor crystal element having at least one face which is known to be oriented substantially parallel to a (111) crystallographic plane within the element, providing an impurity body at said face and in contact therewith, alloying said impurity body to said element at said face by subjecting said element and said impurity body to heat of a temperature such that said impurity body and the portion of the semiconductor crystal element adjacent thereto alloy to one another to form a junction therein with said semiconductor crystal element. . . .

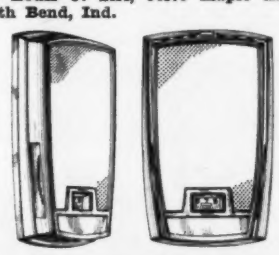
2,972,092. SEMICONDUCTOR DEVICES. Herbert Nelson, Princeton, N. J., assignor to Radio Corporation of America.



1. A circuit element comprising a semiconductor wafer having two opposed major faces; at least one mesa of semiconductor material on one of said major wafer faces; an insulating coating on said one major wafer face around each said mesa; and a conductive film over the top of, and in contact with, each said mesa and the surrounding coating.

DESIGNS

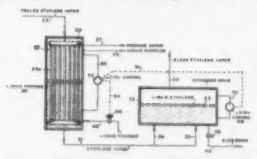
189,764. THERMOSTAT. Carlos B. Morgan, 301 S. 7th St., Goshen, Ind., and Louis J. Siri, 54370 Maple Lane, South Bend, Ind.



189,771. WALL-HUNG DRINKING FOUNTAIN. Halsey W. Taylor, 205 Golf Dr., N.E., Warren, Ohio.

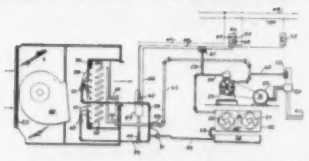
Week of Feb. 21

2,972,235. PURIFICATION OF REFRIGERANT. Buford Don Smith, West Lafayette, Ind., assignor, by mesne assignments, to Esso Research and Engineering Co., Elizabeth, N. J.



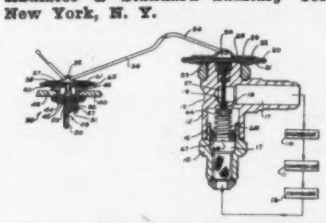
1. A method for purifying a fouled refrigerant containing lubricating oil and water which comprises chilling the fouled refrigerant to its dew point flowing a vaporous stream of said chilled fouled refrigerant into a scrubbing and condensing zone under conditions to form a liquid body of chilled fouled refrigerant and simultaneously, contacting said vaporous stream with said liquid body and thereby purifying said chilled fouled refrigerant by scrubbing lubricating oil and water therefrom, recovering purified vapors of said refrigerant from said liquid body, and discarding and reforming periodically said liquid body.

2,972,236. MEANS FOR AND METHOD OF HEAD PRESSURE CONTROL IN A COMPRESSOR TYPE HEAT EXCHANGE SYSTEM. Otto J. Nussbaum, Trenton, N. J., assignor to Kramer Trenton Co., Trenton, N. J.



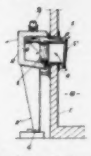
1. In a compressor type air conditioning system including compressor, evaporator, and condenser, means for controlling the head pressure of the system by regulating the rate of refrigerant loading of the condenser and for adjusting the temeprature and humidity of the space being conditioned, said means comprising, a plurality of circuits in the evaporator, means for supplying condensed refrigerant separately to the said circuits, means governed by the high side pressure of the system for restraining the flow of refrigerant to at least one of the evaporator circuits, means governed by the temperature in the space being conditioned for restraining the flow of refrigerant to all the evaporator circuits. . . .

2,972,237. REFRIGERANT EXPANSION VALVE AND CONTROL UNIT THEREFOR. Franklyn Young Carter, Dearborn, Mich., assignor to American Radiator & Standard Sanitary Corp., New York, N. Y.



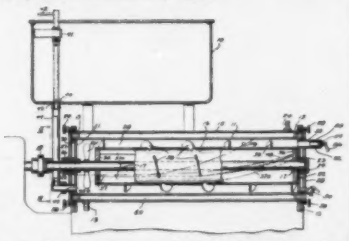
In a refrigerating system having a condenser and an evaporator, an expansion valve having a flow passage therethrough for receiving refrigerant from the condenser and discharging it to the evaporator; a flow-throttling element in the valve controlling flow of refrigerant through said passage; a closed fluid pressure transmitting system including a structure defining a first variable volume pressure chamber on the valve, a second variable volume pressure chamber remote from the first pressure chamber, and a conduit interconnecting the two pressure chambers; a non-volatile fluid filling the two pressure chambers and conduit. . . .

2,972,238. COMBINED REFRIGERATING AND DEFROSTING SYSTEM. Federico Richelli, Milan, and Alfredo Wiesner, Rome, Italy, assignors to A.I.F.E.L.-Apparecchiature Industriali Frigorifere e Lattiere Societa per Azioni, Rome, Italy.



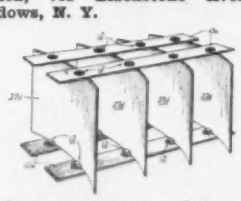
1. A combined refrigerating and defrosting system comprising a refrigerated room having a wall formed with a window; a hollow casing externally adjacent said wall and having an open side facing said window; an extension connected to said casing and projecting through the window and into said room, the length of said extension being such as to permit movements of the casing between a first position in which the casing abuts said wall and a second position in which the casing is spaced from said wall, the configuration of said casing being such as to seal the window from outside when moved into said first position whereby its interior communicates with the interior of the room through said open side and said window and . . .

2,972,239. FREEZERS AND DISPENSERS. Oscar A. Vasby, 315 Linden St., Fort Atkinson, Wis.



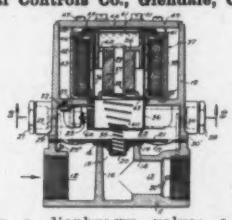
3. In a device of the character described a cylindrical refrigerated treatment chamber having an inlet end and an outlet end to close said chamber, said chamber being provided at its inlet end with means for feeding liquid material to be treated and air into said chamber below the axis of the chamber, a dasher mounted for movement in the chamber and shaped to advance congealed refrigerated material toward the outlet end, and outlet means for delivery of congealed refrigerated material at the delivery end positioned above said axis.

2,972,358. VANE RUNNER FITTING FOR DUCTS AND THE LIKE. Milton Hinden, 701 Blackstone Ave., East Meadows, N. Y.



1. A vane supporting fitting for rotatably securing a vane to a vane runner having a bearing aperture in said runner comprising a stamping of sheet material formed to outline a tubular member of a diameter to be inserted and rotated within said aperture, said member having an open end and an end with a closed wall portion and including a pair of bent segments forming spaced-apart stop extension means positioned between said ends of said tubular member and extending radially outwardly in a plane substantially normal to the longitudinal axis of said member, a slot extending across the closed wall portion and part way up the adjacent sides of the tubular member. . . .

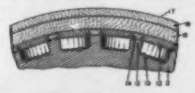
2,972,465. MAGNET-ASSISTED DIAPHRAGM-VALVE. William A. Ray, North Hollywood, Calif., assignor to General Controls Co., Glendale, Calif.



1. In a diaphragm valve: a valve casing have a passage therethrough; a flexible diaphragm closing an opening in said casing and subjected on one side to the pressure of fluid at the inlet of said passage; closure means operated by movement of said diaphragm for controlling flow through said passage; a pressure chamber in said casing defined in part by the other side of said diaphragm and by one side of a partition of thin nonmagnetic material; a housing defined in part by the other side of said partition; means for varying the pressure in said chamber, so as to effect operative movement of said diaphragm and said closure means. . . .

2,972,472. HEAT TRANSFER ROLL. J. Reynolds Konold, Neffsville, Pa., assignor to Armstrong Cork Co., Lancaster, Pa.

1. In a heat transfer roll including a steel mandrel having a substantially cylindrical face with heat transfer fluid channels provided therein and sheet steel covers disposed over said channels to form a roll body with fluid sealed heat transfer fluid passages therein, the combination of a backing layer



consisting essentially of a fused-on homogeneous deposit of soft steel weld metal filling the areas between said covers and extending completely over said roll body and a facing layer bonded to said backing layer, the outer surface of said facing layer constituting essentially the whole working surface of said roll and consisting essentially of a fused-on homogeneous deposit of alloy steel weld metal.

(To Be Continued)

Manager for Old Established Chicago Furnace, Air Conditioning and Sheet Metal Distributor

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ABSORPTION REFRIGERATION — 3-12 cu. ft. on electric, gas, kerosene. Recognized expert in development and production, managing since 11 years most important production line in Brazil using his own techniques and designs, wishes to change climate. Swiss, 60 years, speaking English, French, German, Portuguese. Available Spring 1962. Personal contact possible August, 1961 in Europe and U.S.A. Serious concerns interested in new types of units, or in starting absorption production, or in permanent or temporary consulting assistance, are invited to write to Box 61, PUBLICITAS EXPORT SECTION, Lausanne (Switzerland).

AIR CONDITIONING ENGINEER — Over 10 years' solid experience with three major companies in residential and commercial product development, desires challenging new position. Registered professional engineer. Capable of complete follow through from initial design to production. Patent in heat pump field. Marketing oriented. Superior planning and organizational ability. Will relocate. BOX A6795, Air Conditioning, Heating & Refrigeration News.

THOROUGHLY PROFICIENT in engineering and production of refrigeration equipment. Interested in southwest location. Prefer smaller shop with large potentials. Will consider investing. Experienced in sheet metal fabrication, commercial equipment, domestic, and extremely interested in heat pumps. Very cost conscious. Have held positions such as chief engineer, production manager, works manager. BOX A6796, Air Conditioning, Heating & Refrigeration News.

YOUNG MARRIED man 20, refrigeration and air conditioning service engineer desires a promising position in southern half of U.S. Experienced in domestic and commercial refrigeration, wiring and some sales experience. BOX A6798, Air Conditioning, Heating & Refrigeration News.

POSITIONS AVAILABLE

PACKAGED EQUIPMENT sales — Trane packaged equipment—residential air conditioning and heating, heat pumps, and self-contained units to 50 tons—provides a quality line for the successful salesman with experience in packaged equipment business. Substantial commissions with drawing account. Several openings in midwestern and eastern cities. Write for further details to Staff Employement Department, THE TRANE COMPANY, La Crosse, Wisconsin.

CAPABLE CANADIAN sales engineer. To assist in organizing and directing distribution of complete air conditioning line. Travel involved and to headquarter in Toronto. BOX A6793, Air Conditioning, Heating & Refrigeration News.

ESTIMATOR FULLY experienced in plumbing, heating and piping for a position in Phoenix, Arizona. Mechanical engineering degree desirable or equivalent experience. Give full resume of experience. BOX A6797, Air Conditioning, Heating & Refrigeration News.

EQUIPMENT FOR SALE

500 TECUMSEH P-91 "pancake" condensing units, ⅛ h.p. 115V, 60 cycle, manufacturers' factory rebuilts like new for service replacement-compressor, guaranteed, individually boxed. Quantity price $20.00 ea. ship wt. 45 lbs. Sample units $23.95 f.o.b. N.Y. 500 Tecumseh P-91 compressors only, with relay and overload, like new, same as above — individually boxed —guaranteed, quantity price $15.95; sample compressor $18.95. Ship wt. 26 lbs. Check or money order to: COMMERCIAL CONTROLS, 1463 Crotona Place, Bronx 56, New York City. WY 2-5083.

SEALED SYSTEMS wiring simplified —First factual condensation of basic compressor electrical circuitry in five fundamental diagrams on one big wall chart. Covers virtually all sealed systems wiring essentials of single phase air conditioner, refrigerator, freezer or remote commercial units manufactured in United States. $1.69 or 4 for $5.75 postpaid. FRIGID EQUIPMENT CO., Dept. AH&RN, 1340 St. Stephens Road, Mobile, Alabama.

BRAND NEW icemaker pump motor and impeller repair kits for Scotsman Carrier $18.00 at Kesco wholesalers coast to coast. Bronze replacement icemaker pumps for York Carrier $29.95. Hose connection adaptors for York Carrier $1.00. Complete line condensate pumps from 10' to 50' head, 115-208-230 volts. Catalog. KESCO, Jamaica 13, N. Y.

ATTENTION REFRIGERATION Servicemen. Send for catalog listing values in refrigeration and air conditioning parts, relays, capacitors, compressors. Savings up to 50%. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

NEW COMPRESSOR domes — S-3414, ⅛ h.p. F-22, with relay, overload, capacitor, and service valve, $36.00 ea. S-3N16, ⅛ h.p. F-12, $36.00 ea. S-4814, ¼ h.p. F-22, $34.50 ea. S-4416, ¼ h.p. F-12, $34.50 ea. S-88, S-84, S-64, $24.50 ea. SURPLUS SPECIALTIES SALES COMPANY, 1205 W. Webster Ave., Chicago 14, Illinois. LA 5-9623.

MISCELLANEOUS

ATTENTION SERVICEMEN — More than one half million refrigeration compressors are operating with 'Chicago' replacement valve plates and seals. See your wholesaler. CHICAGO VALVE PLATE & SEAL CO., 6960 W. Grand Ave., Chicago 35, Illinois.

SERVICING AUTO air conditioners? Then you'll save time and earn more money if you are fully informed on all types of systems on the market. They're described fully in "Servicing Automobile Air Conditioners" available in four volumes covering models from 1954 through 1959. Vols. 1, 2, and 4 are $2 each; Vol. 3 is only $1. See your wholesaler or order from BUSINESS NEWS PUBLISHING CO., Dept B, 450 W. Fort, Detroit 26, Mich.

ASHRAE--

(Continued from Page 1, Col. 2)

11:45 a.m.—"Heat and Mass Transfer In Dehumidifying Surface Coils," Prof. William L. Bryan, Dept. of Mechanical Engineering, Case Institute of Technology.

Industrial Ventilation Symposium, Silver Room

9:30 a.m.—Laboratory Hood Design.

"Basic Requirements of Laboratory Hoods," J. C. Burke, Jr., head of Mechanical Engineering, Tracy-Behrent, Denver.

"Design of Hoods," E. J. Williams, supervisor of mechanical engineering, Abbott Laboratories.

"History of the Use of Fume Hoods," G. T. Saunders, manager, Scientific Equipment Div., and L. N. Nelson, head of engineering department Kewaunee Mfg. Co.

"Materials and Construction," T. B. Lanahan, chief engineer, S. Blickman, Inc.

Air Conditioning Symposium, Assembly No. 2

9:30 a.m.—Window Units or Central System?

(No speakers listed.)

2:30 p.m.—Forums.

1. "Tunnel vs. Burial of Heating, Air Conditioning, and Utility Lines." Moderator: P. F. Cummings, Architectural & Engineering Div., Minnesota State Dept. of Administration, Century Room.

2. "Introducing and Controlling Humidity In Heated Living Spaces." Moderator: A. G. Wilson, head of building services section, Div. of Building Research, National Research Council, Ottawa, Can. Gold Room.

3. "ASHRAE Research Status." Moderator: E. P. Palmatier, Carrier Research & Development Co. Spruce Room.

TUESDAY, JUNE 27

Food Refrigeration Symposium, Silver Room

9:00 a.m.—Use of Liquefied Gases for Low Temperature Food Handling.

"The Role of Liquefied Gases In the Frozen Food Field," Prof. Kirby Hayes, Dept. of Food Technology, University of Massachusetts.

"Relative Merits of Various Gas Liquefying Cycles for Use In Freezing and Transportation of Foods," Prof. S. C. Collins, Dept. of Mechanical Engineering, Massachusetts Institute of Technology.

"Effects of Ultra-Low Temperature on Foods," Dr. W. A. Maclinn, director, The Refrigeration Research Foundation.

"Commentary," V. J. Johnson, chief, Cryogenic Data Center, National Bureau of Standards, Boulder.

"Multi-Stop Delivery of Frozen Foods Using Liquid Nitrogen Refrigeration," J. J. Kane, project engineer, cryogenics products development department, Linde Div., Union Carbide Corp.

"Use of Liquefied Gases for Freeezing and Shipping of Foods," R. C. Webster, manager, customer service laboratory, Air Reduction Sales Co.

"Car and Truck Pre-Cooling and Post Cooling with CO_2," J. P. Antolak, director of carbon dioxide technical sales, Liquid Carbonic Div., General Dynamics Corp.

"Commentary," Prof. I. J. Pflug, Dept. of Food Science, Michigan State university.

9:30 a.m.—Forum

4. "Industrial Heat Recovery." Moderator: J. H. Clarke, Visking Co. Spruce Room.

Second Technical Session, Junior Ballroom

9:30 a.m.—"A Study of Fluid Flow Through Flexible Orifices," Prof. R. D. Ulrich, Mechanical Engineering Dept., Brigham Young university; Profs. W. E. Fontaine and O. W. Witzell, School of Mechanical Engineering, Purdue university.

10:15 a.m.—"Degradation of Polyester Film by Alcohols When Used as Additives In Refrigeration Systems," C. J. Bushouse, chemist, General Electric Co.

11 a.m.—"Solubility of Refrigerants 11, 21, and 22 In Organic Solvents Containing a Nitrogen Atom and In Mixtures of Liquids," Allen Thieme, 2nd Ltd., U.S. Army, Cmlc. Nuclear Defense Laboratory, Army Chemical Center, and Prof. L. F. Albright, Dept. of Chemical Engineering, Purdue university.

11:45 a.m.—"Refrigerating Capacity and Performance Data for Various Refrigerants, Azeotropes, and Mixtures," R. C. McHarness, division head, and D. D. Chapman, engineer, "Freon" Products Laboratory, E. I. du Pont de Nemours & Co.

2 p.m.—Forums.

5. "Integration of Lighting and Air Conditioning." Moderator: Walter Spiegel, Charles S. Leopold, Inc. Century Room.

6. "Internal Motor Protectors for Hermetic Refrigeration Compressors." Moderator: J. E. Kumler, Ranco Inc. Gold Room.

7. "Problems of High Altitude Installations." Moderator: D. D. Paxton, Bridgers & Paxton, Albuquerque, N. M. Spruce Room.

WEDNESDAY, JUNE 28

Third Technical Session, Assembly No. 2

9:30 a.m.—"Solar Heat Gains Through Domed Skylights," L. F. Schutrum, research supervisor, ASHRAE Research Laboratory, and Necati Ozisik, Oak Ridge National Laboratory.

10:15 a.m.—"Infiltration Through Revolving Doors," L. F. Schutrum, C. M. Humprheys, assistant director of research, and J. T. Baker, research engineer, ASHRAE Research Laboratory, and Necati Ozisik.

11 a.m.—"An Evaluation Procedure for Odor-Control Methods," William F. Kerka, research engineer, ASHRAE Research Laboratory.

11:45 a.m.—"Daily Insolation on Surfaces Tilted Toward the Equator," Prof. B. Y. H. Liu and Dr. R. C. Jordan, Dept. of Mechanical Engineering, University of Minnesota.

Domestic Refrigeration Engineering Symposium, Silver Room

9:30 a.m.—Quality Control.

Keynoter: Morris Kaplan, technical director, Consumers Union.

"Total Quality Control," William J. Masser, manager of quality control engineering service, General Electric Co.

"Quality Control In Operation," Ray Sonderup, manager, quality control, appliance operations, Philco Corp.

"Relationship of Cost Reduction vs. Quality," William E. Mahaffay, vice president of engineering, Whirlpool Corp.

Fourth Technical Session, Junior Ballroom

9:30 a.m.—"Calculated Temperature Rise In Round Ducts," J. R. Wright, instructor, Dept. of Mechanical Engineering, Tennessee Polytechnic Institute, and E. J. Brown, research assistant and professor of mechanical engineering, University of Illinois.

10:15 a.m.—"A Unique Hot-Box Cold-Room Facility," W. P. Brown, K. R. Solvason, and A. G. Wilson, building services section, Div. of Building Research, National Research Council.

11 a.m.—"Integrated Load Technique for Estimating Annual Energy Use of Central Air Conditioning Plants," A. E. Congress, head, air conditioning and research section, power generation branch, Bureau of Yards & Docks, Dept. of Navy.

Sid Harvey Acquires Victor Sales & Supply

VALLEY STREAM, N. Y.—In accordance with previously-announced diversification plans, Sid Harvey's announced that it has acquired Victor Sales & Supply Co., Inc., a wholesale air conditioning and refrigeration supply company located at 3939 "M" St., Philadelphia.

This company will operate with the same personnel and policies, except that the former owner, Alexander H. Holcombe, will be executive vice president, with Steve Harvey as president and treasurer in an inactive role.

Walter R. Reeves, formerly vice president of Sid Harvey of N. J., Inc., will be the only active officer from the Sid Harvey organization.

Cerro Acquires Viking Tube

NEW YORK CITY — Viking Copper Tube Co., Cleveland, has been acquired by Cerro Corp. for an undisclosed number of shares of Cerro common stock, it was announced by Robert P. Koenig, Cerro president.

No changes are planned in management, Koenig indicated.

Viking Copper Tube is a fabricator of thin-wall copper tube for the air conditioning, refrigeration, and control instrument industries. Cerro is a producer and fabricator of nonferrous metals.

Nassau County RSES Meeting June 29 To Cover Hermetics

HICKSVILLE, L. I., N. Y.—Bendix-Westinghouse will present the educational program for the June 29 meeting of the Nassau County Refrigeration Service Engineers Society.

The meeting will be held at Old Country Inn, here.

John W. Downen, manager of service and wholesaler accounts, and Sam C. Moncher, regional manager, will present the Bendix - Westinghouse colored-slide sound program featuring "Burned Up About Burnouts" and "An Electrical Exploration of Motor Compressors."

This meeting, starting at 8 p.m., will cover methods of preventing hermetic motor burnouts and the servicing of hermetic motor compressors.

vertical or horizontal

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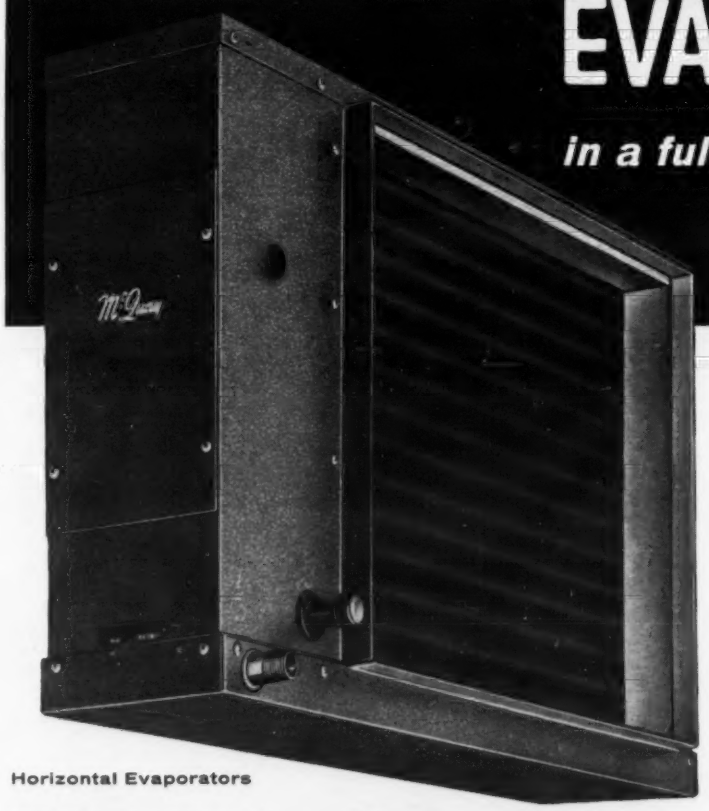

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Residential air conditioning with complete dependability is only one of many features you can expect with McQuay residential evaporators. Designed for either horizontal duct mounting or vertical mounting in the warm air outlet of up flow or counter flow furnaces, their wide flanges and compact dimensions simplify installation in any warm air heating system.

There is a McQuay horizontal or vertical residential evaporator to meet the needs of every home in any climate in 2—3—4—5 and 7½ ton nominal capacities. Quality constructed with patterned aluminum casings completely insulated, these McQuay evaporators will harmonize with any surroundings.

For complete information contact your nearest McQuay wholesaler or write to McQuay, Inc., 1607 Broadway N. E., Minneapolis 13, Minnesota.

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